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What Should Constitute a Standard of Ethical Publicity for the Physician?

WHAT SHOULD CONSTITUTE A STANDARD OF ETHICAL PUBLICITY FOR THE PHYSICIAN?

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New York.

An adequate answer to the question is impossible at the present time, for involved in it is a wrong definition sanctioned by those to whom we are supposed to look for guidance in our professional conduct. The science of ethics is commonly defined as the science of right and their right defined by assumed authority. Because a practice is permitted by an authority it is declared to be right *id est* ethical, as, for example, fee-splitting. Now the proper definition of ethics, and the one formulated by the schoolmen and to be found in treaties upon ethics, is the science of duty, evidently quite another matter. We have the right to do many things, some of which it is emphatically our duty to avoid doing. With this definition of ethics can there be a standard of ethical publicity for the physician? An emphatic negative is the only answer. 1. General information among the laity and mental training sufficient to obtain an intellectual grasp upon scientific subjects has not kept pace with the enormous advance of medical science and those departments of physical science upon which its progress depends. In other words, the general public is utterly incapable of understanding or even appreciating the import of a statement representing present medical opinion when made by an expert—not a specialist merely—and couched in accurate scientific nomenclature. Therefore the dissemination of medical knowledge through the lay press is not only impossible of accomplishment but may even be worse than useless in that, acting on the conclusions which the ignorant may reach, those whom this practice is anticipated to benefit may be positively ignored. The recent effective publicity in regard to radium is a concrete illustration.

2. The self-respect is the physician, using the term generically, should restrain his exploitation of remedies or methods of whose value no competent professional authority has rendered final judgment and from advertising his necessities in various directions. The public at large classify such notoriety-seeker with the advertising charlatan and the press believes it to be against their financial policy to publish crude advertising matter without charge or at a reduction from their regular rates.

It is the duty of the physician which he owes to himself to successfully avoid publicity not only for his own reputation but as well for the good of the people at large. The people may be instructed in matters of hygiene by boards of health, by lectures at the public schools when the lecturers are selected by proper authority and by public meetings, medical societies for which the speakers are carefully chosen. To the end that this instruction shall be accurate and productive the personnel of boards of health must be greatly improved in character and scientific attainments and scientific accuracy need not be sacrificed to mere platform popularity. Much can properly be done by the medical societies of the better class and it is a hopeful sign of the times that some of them are availing themselves of their opportunities.

To attempt to instruct the public at large through the lay press is worse than useless and belittle not only the profession of medicine but as well the individual who with intent or by accident appears in the newspapers. The thoroughly equipped practitioner needs no advertising; of the others, those who appeal to the public, must be judged by their acts, when ethics is properly defined as the science to duty and one's duty is interpreted by a conservative adherence to duty there can be no question of ethical publicity so far as medicine and surgery is concerned.

"STANDARD" PROPERLY DEFINED.

ROBERT T. MORRIS, M. D.,

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New York.

When considering the question of the standard of ethical publicity for the physician, let us first define "standard" as "that by which quality is estimated."

The quality of publicity is of low grade when it refers to the personal work of the physician. It is of

low grade when it deals with debatable questions which have not become crystallized morphologically in what we call "consensus of opinion." Publicity is of high grade when the doctor, acting in accordance with the derivation of his title, becomes a teacher of the public in matters which relate not to himself but to the public. There is sometimes confusion of idea in this, in the physician believing that what is important to him personally is of equal importance to the public. In view of this latter fact it is unsafe for any physician to discuss medical matters before a lay public unless he has been acknowledged by some responsible medical body as a proper exponent of its conclusions upon any subject.

Aside from the question of publicity in relation to matters medical, it is a duty of the doctor as a good citizen to take part in all movements of public interest and to express himself freely upon subjects not medical. The public is capable of exercising some sort of judgment as to the value of his ideas upon subjects which do not relate to medicine.

OLDER PHYSICIANS SHOUD GUIDE US.

HAROLD HAYS, A. M., M. D.,
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New York.

The standard of ethical medical advertising will always be set by those men who are most prominent in the profession. Conversely, those men who are most prominent in the profession will get the most advertising; for it is only natural that their work, whether operative or otherwise, is looked upon as the gospel of medical service.

Every man in medicine who wishes to succeed has to be his own advertising agency. The standard by which he advertises himself in the profession is by writing papers, distributing reprints, by speaking before medical societies, and by associating himself with various high-class hospitals, where his skill may be seen by outside men. The more he writes, the more he talks, the more he works, the better off he will be in the end, provided he has once established a reputation for doing good, sound work, and as long as he maintains this reputation.

Advertising to the laity, particularly through newspapers, is a much mooted question. I believe no harm is done in this direction, and that a high standard of medical advertising in this way can be maintained as long as the newspapers have competent medical editors, and as long as the physician himself is allowed to edit the material that goes into them. Unfortunately, many articles appear in the papers purporting to come from a physician who knows nothing about it until he sees his name in print, and often times he is up against the proposition of having some reporter come and tell him that he (the reporter) has the story anyway, and that if he does not wish to correct it it will go into the paper just as it is. Often such a story is better out of print, but unfortunately the physician has no redress in the matter.

To sum up, then, I believe that the physician has every right to advertise himself according to the standard that is set by the older and more prominent men in the faternity. As long as these men allow their names in print attached to any kind of article, just so long will the standard be lowered. As soon as these men see to it that nothing goes over their names which is not of value to the community, as well as to them, just so soon will the standard be raised.

CONSCIENCE AND SENSE OF PROPRIETY SHOULD SET A STANDARD.

JOHN A. WYETH, M. D.,
PRESIDENT OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND COLLEGE,
New York.

You ask, "What should constitute a standard of ethical publicity for the physician?" In my opinion the relation of the physician to the public—and by the public, I mean that great mass of the people not closely in touch with medical affairs, which can only be reached through the lay press or the lecture platform—should be left to the conscience, the sense of propriety and the dignity of the individual.

I have always held that our first duty as teachers, was to try to instruct the people how to avoid disease, rather than administer remedies as curatives. When a member of our profession has by his attainment won the confidence and the respect of his fellow-practitioners and of the community he falls short of his full measure of usefulness if he keeps the benefit of this valuable experience from his fellow man. It goes without saying that this should be done without a thought of present exploitation or notoriety. No physician of character, whose opinion is of real value, would lend himself to such a base or selfish purpose. The lay press has the opportunity to do an invaluable service in conveying the simple truth of medical progress to the people and when our proprietors and editors are courageous enough and conscientious enough to do this in plain terms stripped of sensationalism, they will have made a great advance in altruism.

The ideal method, in my opinion is that pursued by the New York *Sun*, the editorial columns of which are devoted to the enlightenment of its readers on all matters relating to the public health. Each of our influential journals should have a medical editor. For ten years I took on this extra burden in connection with the *Sun* and was succeeded by Dr. Simon Baruch, who now so ably conducts that column.

During the four years of my service in the Academy of Medicine I did all in my power to arouse general interest by inviting the public to the course of lectures organized by that great institution for the instruction of the laity.

The one discouraging feature of any effort to inform the public in matters of self-protection, is the attitude of some of our newspapers, the managers of which do not exercise proper discretion in presenting these topics to their readers. This, I believe, can be, in large measure, overcome by making our communications only through such agencies as will respect our wishes of avoiding personal publicity.

PRESENT STANDARD SHOULD NOT BE LOWERED.

B. G. R. WILLIAMS, M. D.
Paris, Ill.

It seems to me that the cases of the general practitioner and the specialist should be considered separately.

In the case of the latter we certainly do not need a new standard of ethical publicity, though perhaps a much broader standard would be advisable in the question of securing the attention of the profession itself. Speaking from the standpoint of the specialist, I believe that it is neither necessary nor advisable for him to present his case to the layman. If he is a true specialist he will receive the co-operation of the profession; if he is a pseudo-specialist (patient-thief) he will not—is my observation.

Strangely enough, it is often the specialist (or, rather, the pseudo-specialist) who breaks the old standard in approved ethical fashion; and in consequence his colleagues yearn or clamor for new ones. For example (and this is but one of many), in a 1912 issue of the Chicago *Record-Herald,* and upon the first page, I see an example of ethical publicity which reminds me of the story of the man who steals a million and is honored, but the mother who steals a loaf and is hanged. Is it ever true specialists or general practitioners who put across the big ethical publicity stunts? Physicians can no longer be divided into two classes, but three—the sheep, the goats and the half-breeds. We have long ago settled the question of the ethical physician and the quack, and need no new standards. But what shall we do with the semi-quack?

I see no real good reason to make lax the present standard of ethical publicity, believing that it is true in our profession, as in others, that we are known much better by our works than by what we have to say concerning ourselves. Upon the other hand, it might be well for us to see to it that the big potatoes who preach codes likewise live up to them. When the fellow who has backbone enough to gain a double-column write-up on the front page of a metropolitan newspaper finds but little trouble in landing the presidency of a national medical association it is difficult for me to believe that the members of such an organization are serious about the present standard they advocate. It would appear that a man should first become an officer of a national medical society if he desires to feature "the greatest hospital on earth," "race with death across the continent" because no surgeon was there who could have saved the child, or statements concerning the minor illness of some politician. The poor devil of a practitioner has learned that should his name slip into the village weekly he must face an irate county society. No, let us not hope to reform by legislation, but execution. Let not the pigs through the big gate while the camels sweat at the needle's eye.

PRINTER'S INK THE REMEDY.

ALFRED S. BURDICK, M. D.,
MANAGING EDITOR OF THE AMERICAN JOURNAL OF CLINICAL MEDICINE,
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I doubt very much if such a standard ever can be adopted. There is a wide difference on opinions and methods in different portions of this country. What is ethical in Montana or Wyoming possibly would not be considered ethical in New York, and what is ethical in the country is certainly unethical in the city. For instance, it is the general custom in almost every country town for the local physician to carry his "card" in the local paper. The city physician who would print such a card in the metropolitan press would be branded as an advertising quack and summoned to appear before his county medical society.

I believe, however, that there should be a careful re-examination of what we are pleased to call "the question of ethics." We are still on a sixteenth century basis. In the olden days doctors surrounded themselves with mystery; it was thought necessary to withhold from the patient any essential information concerning his art. The spirit of the twentieth century is exactly the reverse. The day of full publicity has arrived. Intelligent laymen everywhere are reading about our latest discoveries and about the new methods of treating tuberculosis, cancer, malaria, and yellow fever. Many of them are better informed concerning the principles and practice of sanitation than the average doctor.

It is neither good sense nor good policy to practice a policy of secrecy and assume an air of mystery in dealing with men of this kind. I believe the time has come when the physician should get out into the open; and I believe the time will come when he will not be ashamed to use printer's ink and will not be condemned for so doing.

Of course, I do not mean that doctors will advertise or should "advertise" as the word is ordinarily used. But groups of physicians, whether associated in medical societies, or on the staffs of hospitals, or in firms of physicians, may with propriety (in days to come) tell the world what they have and what they are doing with what they have. The best sanitariums in the country advertise today. Also, the best physicians in the country advertise today—but they do it indirectly. In other words, they are "advertised by their loving friends."

Is it necessary to say that there are a great many good doctors who would scorn the thought of doing anything unethical, who wish that they, too, had an assortment of "loving friends."

Mere self-praise will never be ethical just as it never will be gentlemanly. The quack advertisement and the advertising charlatan, in my opinion, are both doomed. They will go out for exactly the same reason that this broader conception of publicity, which I have tried to outline above, will come in; simply because this is a day when a man has to play the game with the cards on the table. I, for one, shall be glad to see that day come, because I believe that with it will disappear a lot of the pretense and sham which is still altogether too common in our profession.

THE PHYSICIAN AND THE NEWSPAPER.*

J. W. PETTIT, M. D.,
MEDICAL DIRECTOR OF THE OTTAWA TUBERCULOSIS COLONY.
Ottawa, Ill.

There is no precept of our code which meets with such universal approval and the infringement of which is so quickly resented by the reputable element of our profession as the one which prohibits advertising of that fraudulent and offensive kind which is so justly obnoxious to the ethical sense of every honorable and self-respecting physician.

Prior to the development of scientific medicine made possible by Pasteur's discoveries, the relation between the physician and the patient was purely a personal one. With the passing of empiricism and the advent of the age of scientific medicine in its growing mastery over disease medicine has come into the gravest of responsibilities, both public and private. Medicine is wielding a new and mighty power, affecting not alone the lives of individuals but the welfare of municipalities and states.

In the meantime journalism has raised the standard of its news and editorial columns and is rapidly purging its advertising columns of fraudulent and misleading advertising matter. While there is still room for improvement, the average newspaper of to-day is conducted on a higher plane than at any time in its history. There is still too much of "yellow journalism," and probably always will be, just as there always will be quacks in medicine, but there never was a time in the history of journalism when there was greater activity to raise the ethical standards of the press. It is only

*Abstract of remarks at Publicity Conference in Chicago, February, 1914.

a few short years since the medical profession of this country has been organized on a practical working basis. During that time we have made greater advancement in raising the ethical standards of our profession along all lines than has hitherto been done during our whole history.

News is news, whether or not it relates to physicians. There are many things connected with our professional work of which the public has a right to know, and there are also many of which they have no right, and it would be a violation of professional confidence to make public. Just how and to what extent the medical profession may use the secular press legitimately cannot be formulated by rule. Good judgment and good taste must govern in this matter as in everything else. The traditions of the profession with regard to advertising should be preserved, but let us make a distinction between principal and method and not make ourselves the subject of criticism and ridicule by contending for the perpetuity of methods which are obsolete. Is it not a wrong application of a correct principle when we make it unethical for a physician to discuss medical topics in the secular press or cast suspicion upon him because his name happens to appear in a newspaper column? Such criticism, although recognized by men engaged in philanthropic work as unjust, has a decided tendency to handicap them in their work; and the embarrassment which every man feels who is judged as lowering the ethical standards of his profession, no matter how unreasonable such criticism may be, has a decided tendency to make him shirk from a public duty which he would otherwise regard as a pleasure and a privilege. Some medical societies have gone so far as to pass resolutions demanding that newspapers shall not print their names. Such action is ridiculous, and is an unwarranted attempt to dictate, which always results in a well-merited rebuke on the part of the press.

The united action of the press and the medical profession in the crusade against tuberculosis is a striking example of what can be done by a union of forces which had hitherto stood apart. By the aid of the press we have accomplished more within a few years than could the medical profession unaided by the press in a quarter of a century.

In any readjustment of our relation to the press in this matter we must bear in mind that we incur a great risk of bad men in our own profession misusing this privilege to the disadvantage of the public and the discredit of the press and the medical profession. Indeed, this is just what will occur unless we apply some practical safeguard. The remedy is simple and can without question be made effective. A bureau of medical information under the auspices of the American Medical Association can be organized which shall furnish information to the press free and also censor advertising matter. This will simply be enlarging a function of the Association which is now operating on a comparatively small scale. Even business men are asking for concerted action in the suppression of medical quackery. Merchants are bringing pressure to bear upon newspapers to discontinue the publication of advertisements of medical quacks and charlatans in the belief that the legitimate advertiser suffers by having his advertisement printed in the same newspaper with that of quack doctors.

We have been vainly attempting to secure the establishment of a National Department of Health with a medical man as a member of the cabinet. If we could only secure the assistance of the press it is a foregone conclusion that we will succeed. Without it, never! We also need the aid of the press in bringing about reforms in the medical profession. The very effective way in which it is cleaning out the quacks is an illustration of what the press can do. We need its assistance in medical legislation, to assist in the better administration of laws already on the statute books.

PUBLICITY.

With Special Reference to Medical and Surgical Specialists.

GEO. F. BUTLER, A. M., M. D.,
MEDICAL DIRECTOR MUDLAVIA SANATORIUM,
Kramer, Ind.

Modern business is promoted by displaying goods in show-windows and by advertising through the press. Decorative art is applied in window-dressing to enhance the show, and both literature and art render the like service to the advertisement. Such self-commendation is no real praise, and deceives no intelligent buyer. Business is war, and war is killing, and killing can never be more than a little modified by ethics. Fortunately the professions stand upon a higher plane, more conducive to the common weal; and here, therefore, ethics preclude all exploitation of man by enticing of look or word.

Yet even the show-window and the advertisement serve legitimate use so far as they inform the public as to what is current fashion and the market price of goods. They give a much needed publicity.

Is there any analogous need for such legitimate publicity in the case of professional service; for example, that of specialists in medicine and surgery? Hitherto all publicity in these cases has been secured exclusively through the mouths of general practitioners, who upon meeting the patients concerned, direct them to the appropriate specialist. Probably these intermediaries must always furnish his chief supply to the specialist, simply because the plan is best for all concerned. The general practitioner is usually the first to recognize the need; he feels close responsibility to a patient who is a regular patron, lives in his neighborhood and must contribute to making or marring his reputation. Likewise, the practitioner is a better judge than the patient can reasonably be of the merits of any given specialist, and finally, he will then support the specialist in his critical and sometimes criticised service. To the end that the practitioner may be kept informed on the matter, the specialist should make occasional reports at medical meetings and in medical journals, both on the general progress of his science and on his own application of it.

It is an excellent compliment to this source from practitioners when the specialist himself has spent enough years in general practice to become known directly to a considerable circle of patients who will come to him direct. Obviously, this procedure will also better prepare the specialist for his life-work, because *"Wer eine weiss keine weiss,"* "Who knows one, knows none," as the great Goethe declared of language and as is true of all else.

Now, granting all the aforesaid as accredited fact, does anything analogous to the proper part of business publicity remain? Certainly not for the individual specialist, both because the laity could easily be allured by specious advertising, and because the best financial specialist could advertise most and draw most. But why not secure publicity for specialists collectively? Beyond all doubt many people who need the service of a specialist never get it; because they know not their need, or if they know it, do not know that it can be

(*Continued on p.* 145.)

General Scientific

FIFTEEN MONTHS OF "JUDICIOUS NEGLECT" IN THE TREATMENT OF PUERPERAL INFECTION.

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Between October 1, 1912, and January 1, 1914, there have been admitted to the maternity service of the Long Island College Hospital about fifty cases having a febrile puerperium. Some of these ran a mild course, the temperature seldom rising above 101°. Others presented considerable difficulty in diagnosis. In the following report the cases have been selected because of their severity and the certainty of their diagnosis. As all fatal cases are herein considered, the mortality here given is somewhat higher than that which actually occurred.

All febrile cases in which a puerperal infection was suspected were treated according to the following routine: Whenever the temperature of a puerperal patient rose to 100.4 or over, the head of the bed was elevated fourteen to sixteen inches. An initial cathartic was administered. Water and liquids were forced by mouth. An ice bag was placed over the lower part of the abdomen. Ergot was given by mouth. The leucocytes were counted. One-half Cc. of a polyvalent stock vaccine, containing streptococci, staphylococci and colon bacilli was given. Other causes of an elevation in temperature were excluded as far as possible by a thorough physical examination. If, after twenty-four hours, the temperature was found to be 100.4° or over a uterine culture was made in the following manner: Both the patient and the operator were prepared according to the usual routine for vaginal operations even to the extent of using a sterile vaginal sheet, sterile gloves, and a sterile gown. A speculum was inserted and the vagina dried thoroughly with sterile gauze. The cervix was grasped with a tenaculum and brought down by gentle traction. It was then painted with iodin. After this had dried, a Little tube was inserted into the canal and passed into the uterine cavity, care having been taken to avoid touching even the apparently sterile instruments used in exposing the cervix. On withdrawing the rubber plug some of the lochia from the uterine cavity was thus obtained. The tube was wrapped in a sterile towel and sent to the bacteriologist who after breaking it about 10 Cm. from the end planted some of the enclosed material on ascitic culture media. Blood cultures were made only in special cases.

If the fever continue and pyogenic organisms were found in the lochia the above treatment was continued, the vaccine having been repeated every fourth day. Frequently additional supportive measures were required. Of these the most commonly employed were camphor, strychnin, brandy and caffein. The occasional use of hypodermoclysis and proctoclysis was resorted to. Aside from the vaginal examination and the introduction of the Little tube for diagnostic purposes, no local treatment was employed, except in the two cases in which pelvic abscesses were drained through the posterior cul-de-sac. The principle of "judicious neglect" was rigidly adhered to even in incomplete and inevitable infected abortions in which the hemorrhage was not severe.

Twenty-five cases sufficiently severe to warrant their being reported occurred during the fifteen months above mentioned. These appeared in women between the ages of 15 and 40 years who had been pregnant from one to eight times. Twenty-one were cared for during confinement by physicians while four were delivered by midwives.

A glance at the accompanying table will show that the occurrence of puerperal infection after normal spontaneous delivery is by no means a matter of only historical interest. When we observe that over half of these cases followed normal deliveries we are led to feel that the teachings of Holmes, Semmelweiss, Lister and those who followed in the endeavor to make asepsis the watchword of modern obstetrics were in vain, at least as far as some physicians are concerned. The remaining eleven cases were preceded by intrauterine manipulation.

Contrary to the usually accepted belief it may be seen that in eight instances the initial rise in temperature was observed on the first or second day of the puerperium. This, however, is not strange as most of these cases had prolonged labors and in all probability the infecting organism was introduced just before or during the early part of the first stage. In one, the patient confessed to coitus on the night preceding her admission which was but a few hours before the onset of labor. All but one of remaining cases had their onset on the usual third, fourth or fifth day. In this case the puerperium was normal until the eighth day when the initial symptoms appeared. This probably was gonorrheal in origin as the lochia showed the presence of gram negative intracellular diplococci suggestive of gonococci.

The majority of the cases had their onset with a chill, which recurred one or more times on the succeeding days. Pain in the lower part of the abdomen likewise was a frequent symptom. Coincidently there occurred an increase in the number of leucocytes. In one of the fatal infections the leucocytes were nearly doubled on the day following an intravenous injection of 15 Cc. of n-10 sodium hydroxide.

A study of the temperature and pulse will give some idea of the severity of this series of cases. Three had a temperature above 106° at some period in their course. It rose to between 105 and 106 in three others. Eight showed a maximum elevation of between 104 and 105. Six, between 103 and 104. Two, between 102 and 103, and two between 101 and 102. In twenty cases the pulse rose to between 120 and 150 while in the remainder it was between 100 and 120.

The temperature continued elevated for from 2 to 23 days, the average duration of fever being 103 days.

Fifteen cultures were made from the material obtained directly from the uterine cavity. Of these ten showed a pure culture of streptococci. Two, streptococci with the staphylococcus aureus and streptococci with the colon bacillus. A saphrophytic bacillus was obtained in a pure culture. In the remaining case a gram negative intracellular diplococcus was found in the smears. One blood culture showed a streptococcus. In all fourteen cases showed the streptococci either in the uterus or in the blood stream. In the remaining cases the cultures could not be made. In two the patients were treated at home. In one, the uterus was ruptured. In another the foetus was in the uterus. Two were private patients whose physicians would not consent to the taking of cultures. Two were in such serious condition that it was deemed advisable to dispense with cultures and one had a fresh perineal repair.

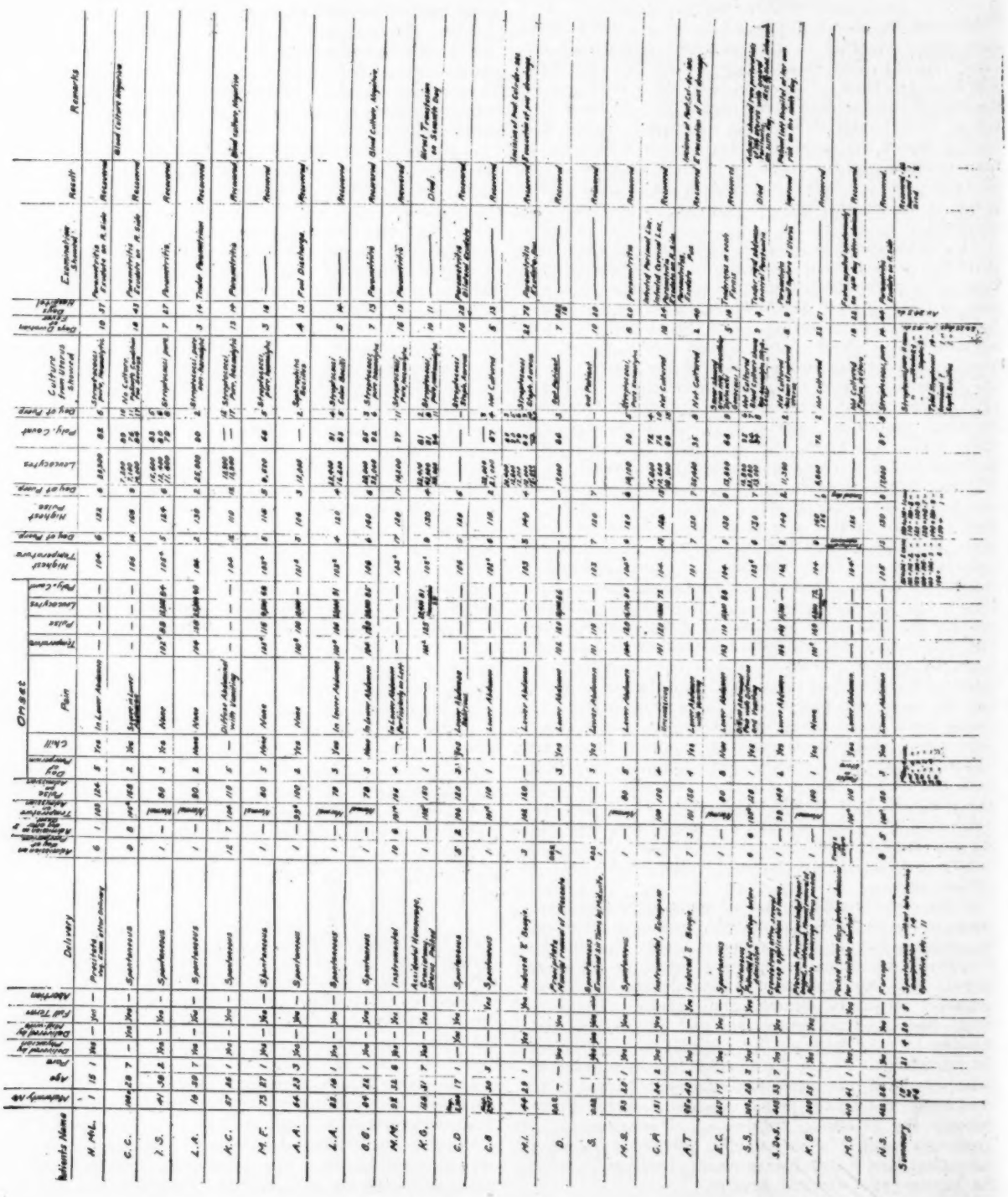
Vaginal examination showed a large tender uterus

with tender parametrium in most of the cases. Seven had an exudate on one or both sides and in two fluctuation was noted in the posterior cul-de-sac.

The average duration of patient's confinement in the hospital was 24.3 days. Seven cases remained over 24 days because of the presence of a pelvic exudate which was treated by the application of heat to the lower abdomen with bi-daily hot vaginal douches.

Of the 25 cases 22 recovered, one left the hospital at her own risk after her temperature had been normal 24 hours, and two died. On discharge those who had recovered showed good involution and freedom from tenderness as well as the absence of a mass in either fornix.

The first fatal case had a haemoglobin of 20 (sahli) at the onset of the infection. The other death resulted from peritonitis following perforation of the uterus during a curettage for an incomplete abortion.



In considering the whole series we have had a mortality of 2 cases in 25, or 8 per cent. In considering the series treated by the judicious neglect of local treatment our mortality was 1 case in 24, or 4 1/6 per cent.

Most of the cases herein recorded occurred on the service of Dr. J. O. Polak whose supervision and suggestion were responsible for the results obtained.

GENITAL PROLAPSE.*

CUTHBERT LOCKYER, M. D., F. R. C. S.

SURGEON TO IN-PATIENTS, SAMARITAN HOSPITAL; LECTURER ON GYNECOLOGY ANDOBSTETRICS, CHARING CROSS HOSPITAL; EXAMINER IN MIDWIFERY AND DISEASES OF WOMEN, CONJOINT BOARD.

London.

A prolapse of any part of the female genitalia is really a hernia; there is a protrusion of some portion of a pelvic viscus through the structures which ought to support it. This definition does not include so-called prolapse of the ovaries, which is a condition secondary to descent and backward displacement of the uterus.

The soft parts which enclose the diamond-shaped pelvic outlet are composed of muscle, pelvic fascia, and connective tissue, the most important of these being the flat sheet of voluntary muscle which is attached in front to the back of the symphysis pubis, at the sides to the white line and spine of the ischum, and behind to the sacrum. It is known anteriorly (as far as the ischial spine) as the levator ani, and posteriority, between the ischial spine and the sacrum) as the coccygeus, but for our purpose we may regard the whole sheet as one muscle. This muscle passes downwards and inwards towards the mid-line, where it meets its fellow of the opposite side, and with it forms a diaphragm which (with the pelvic fascia overlaying it), shuts out the perinæum from the abdominal cavity, and forms a support for the intra-pelvic organs. This diaphragm is perforated in the mid-line by the rectum behind, and by the uterus, vagina and urethra in front, and such perforations are no doubt a source of weakness—but this is partly counteracted by the fact that the levatores ani send fibres down along the walls of the penetrating viscera. These structures do not pass through a mere decussation as does the aorta through the thoracic diaphragm.

So much for the levator ani muscles, but the fascia and connective tissue are also of importance; I have, however, given precedence to the muscle as a means of support, because of its power of adapting itself to the constant variations in the intra-abdominal pressure, a function which is obviously not shared by inert fascial structures. The fascia and connective tissue elements of the pelvic floor are invaluable as a *point d'appui*, as a means of attachment to the levatores ani, and also as a great support to the uterus itself. For we find that where the cervix penetrates the pelvic diaphragm, it is supported by two specialized thickened bands of fibrous tissue, known as the transversales colli ligaments, which lie on the pelvic floor, and are formed in all probability from the visceral layer of the pelvic fascia and the connective tissue which lies between it and peritoneum. Some of this tissue runs on to the base of the bladder, where the latter is attached to the cervix, and fuses with the collar of connective tissue which surrounds the cervix, and is called the parametric tissue of Virchow. The forward tilt of the uterus is probably maintained by the utero-sacral ligaments, and these structures may help to keep it at its proper level. The remaining supports of the uterus are debatable. The uterine vessels and their sheaths no doubt give support to the organ, whilst it is difficult to see that the peritoneum of the broad and the round ligaments has anything to do with keeping the uterus in position.

The perinæum is sometimes called the pelvic floor, but it must not be confused with the pelvic diaphragm, which is the true floor of the pelvis, and which, therefore, is alone concerned in the primary function of maintaining the support of the pelvic viscera. As Fothergill has pointed out, and as every gynæcologist has had occasion to observe, the perinæum may be completely torn and yet the uterus remain at its proper level; but we know that a torn or stretched perinæum is often associated with prolapse of the vaginal walls, and the question arises here, how much the perinæal defects is responsible for the vaginal prolapse. It seems logical to assume that the anterior vaginal wall gets considerable support from the posterior wall of the vagina, under normal conditions when they lie in apposition. The canal is a gradual curve, so that if we hew down the posterior buttress by a perinæal laceration, there will be consequent weakening in front and secondary cystocele will result; we must therefore include the perinæum among the "supports," as far as the vaginal walls are concerned.

Causes.

The supporting structures may be defective from birth, and thus lead to a congenital prolapse of certain organs, such as the uterus, bladder, and rectum. Generally speaking, however, genital prolapse is the result of injury sustained by normally developed supports. One of the commonest of these injuries is caused by increased abdominal pressure. This increase is produced in various ways:—

First and foremost is the result of child-bearing. Paramore and others have shown that during pregnancy the intra-abdominal pressure is increased. This worker has further found that, to compensate for this down thrust, the levatores ani are hypertrophied; and he maintains that the increase in pressure within the abdomen is not entirely due to the increased visceral weight, but is in part due to the additional tension caused by the muscular hypertrophy. Fibroid tumours, ovarian cysts, and other abdomino-pelvic growths are also associated with an increase of abdominal pressure, but (from Hőrman's observations, quoted by Paramore) not to the same extent as the gravid uterus, weight for weight. But, speaking from my own clinical knowledge, I have seen a neglected ovarian fibroid associated with total prolapse of the uterus and bladder in a nulliparous spinster; and I have had to do an extensive cystocele operation, together with hysterectomy for fibromyoma uteri, both cases showing that tumours may raise the pressure from within to a degree sufficient to overcome entirely the resistance of the pelvic diaphragm.

Secondly, injuries to the supporting structures during labour are important. These are of a two-fold character; the straining produced by expulsive efforts may cause (1) permanent relaxation of the supports, and also (2) actual laceration and diastasis. It thus comes about that prolapse is much commoner in parous than in nulliparous women.

Thirdly, laborious occupations, involving long standing, continued, and severe muscular effort, such as lifting heavy weights, e.g., *laundry work, charing, etc.,* are potent causes of genital prolapse.

Lastly, bronchitis and emphysema, with the accompanying chronic cough, and the straining at stool in chronic constipation, are fruitful causes of this trouble.

*Lecture delivered at the London Polyclinic and reproduced by the courtesy of the Editor of the *Practitioner*.

Genital prolapse comprises (1) prolapse of the uterus, (2) prolapse of the anterior vaginal wall, (3) prolapse of the posterior vaginal wall. These varieties are commonly associated, although they may be met with singly: for example, the uterus may descend into the vaginal passage in the absence of cystocele or rectocele; cystocele and rectocele may occur together without descent of the uterus; cystocele and descent of the uterus may be associated; cystocele may occur alone; rectocele may occur singly; and, finally, cystocele, rectocele, and descent of uterus may be present in the same case. It thus follows that the treatment of prolapse must be very varied and dependent upon the nature and degree of the condition which is present. The extent of uterine prolapse admits of division into three degrees. In prolapse of the first degree, the uterus has dropped below its normal level, but the fundus is generally anterior, although it may be backwardly displaced; in the second degree, cervix presents at the vulva, and the body is always backwardly displaced; in the third degree, the entire organ is lying outside the vulva, the vagina being turned inside-out and more or less completely carrying with it the whole or part of the bladder.

Cystocele is a prolapsed condition involving the anterior vaginal wall, the base of the bladder, and the urethra. On getting the patient to strain, a cystic looking body with a smooth surface protrudes through the vulva, and the introducing finger passes behind the swelling; it is often associated with the first and second degrees of uterine prolapse, but often the descent of the uterus is very slight indeed. It is seen in both parous and nulliparous women, and is due to a diastasis of the anterior fibres of the levatores ani muscles, which form the natural support to the bladder and vaginal wall.

Rectocele is a sacculated protrusion of the large bowel caused by stretching of the recto-vaginal septum; it is not nearly so common as cystocele, but like the latter it may be due to congenital weakness, and I have seen it in a young girl with an imperforate hymen. Protrusion of the posterior vaginal wall is often seen without rectocele; this is due to the fact that the attachment of rectum to vagina is very loose, therefore to diagnose a rectocele it is necessary to make a rectal examination.

The changes which occur in the prolapsed parts and the alteration of the introitus vaginæ are of importance. Perinæal tears produced during labour, in which primary suture was neglected or imperfectly carried out, are a predisposing cause of prolapse of the vaginal walls, although it does not necessarily occasion prolapse of the uterus. The tears which are most likely to be overlooked are those which do not involve the skin of the perinæum, but which produce a deep fissure in the mucosa of the posterior vaginal wall and extend into the connective tissues of the perinæal body. This leaves a thin perinæal body and a consequent weakening of the structures of the vulval and vaginal outlet. The size of the vaginal outlet and the state of the perinæal body are of great importance in determining the treatment of prolapse by means of supports, as the retention of pessaries is dependent thereon; *e.g.*, it would be useless to expect a pessary to be retained, if there had been a complete rupture of the perinæum.

The changes seen in prolapse of the second and third degrees include:—

a. Friction ulcers on the exposed parts, dryness of the inverted vaginal walls.
b. Elongation of the supra-vaginal cervix.
c. Backward displacement of the corpus uteri.
d. Temporary incarceration of the procidentia produced by œdema of the soft parts, and symptoms of septic infection.
e. Relative displacement of the urethra in procidentia, leading to incomplete evacuation of urine and consequent cystitis, must also be mentioned.

The state of the anal orifice is another point to note: when the sphincter has escaped injury, it produces radial folds around the anus; when it has been torn, these folds will be absent in front and be replaced by smooth scar tissue, the torn muscle having receded and assumed a horseshoe shape around the posterior and lateral anal margins.

Symptoms.

These may be slight or severe; the commonest complaint is a sense of bearing down or weight, or there may be a constant dragging pain on walking or standing, which hampers every kind of bodily activity. In procidentia, of course, the mass outside is a constant source of annoyance, but it does not give rise to the symptoms of dragging pain complained of in the stretching stage.

Fertility is not much impaired so long as there is not complete procidentia. Irritability of the bladder, frequency and incontinence of urine on coughing are common accompaniments of cystocele.

Examination.

Place the patient in the Sims' position; notice the state of perinæal body and anus; separate the labia; examine the introitus vaginæ; ask the patient to strain and note the effect on the vaginal walls; see if the cervix protrudes; feel for the anterior borders of the levatores ani by a finger inside and a thumb on the ischial spines. Make a bimanual examination and ascertain the level of the uterus, the position of its body, and the situation of the ovaries. Ascertain the length of the vaginal cervix. the size of the uterus; exclude a vaginal cyst by a sound in the bladder for cystocele, and the finger in the rectum for rectocele.

Treatment.

This is prophylactic, palliative, and curative. Prevention includes the correct management of labour and the puerperium. Lacerations of vagina and perinæum should always be treated by primary suture. In young delicate women, some sub-involution and slight prolapse is often noticeable after confinement; such cases should be kept in bed for three weeks or so, general massage employed, and everything done to improve muscular tone. Then, when the patient gets up, a suitable pessary should be worn, care being taken not to over-stretch the vagina.

Palliative treatment includes reduction and the use of some kind of support. Reduction is generally easy; in cases of difficulty from swelling of the parts, rest in bed for a few days becomes necessary, and the knee-elbow position may be used. For support, a great variety of pessaries have been devised, but only those in common use need be mentioned; these may be classed as those dependent on external support, and those which are self-retaining. For the successful employment of the latter, it is essential that the soft parts (pelvic floor and perinæum) should not be damaged too much; the ostium vaginæ must of necessity be smaller than the upper part of the canal.

Pessaries.—The forms of pessaries in use in Charing Cross Hospital are:—1. The watch spring; 2. The vulcanite ring; 3. The Hodge; 4. The Grailey Hewitt; 5. The Leith-Napier cup and stem; 6. The Zwancke.

1. *The watch spring.*—It is as well to mention that the objections to the use of a soft rubber ring, are solely concerned with the ease with which it becomes septic,

this being due to the fact that the watch spring is covered with porous india rubber. Necessitates a daily douche being given, and it ought to be taken out and cleansed after each period; if these precautions are carried out, no sepsis will result. Its advantage is that it is easy of introduction, and can therefore be used on older patients than can the vulcanite ring, but where the introitus vaginæ is easily dilated the vulcanite ring is to be preferred. It can be left *in situ* for a much longer period, and in a cleanly subject need only be removed for cleansing every six months.

2. *The vulcanite ring.*—These pessaries are used for prolapse of the first and second degrees; they should lie with their diameter in the transverse axis of the vagina and act by stretching the walls of the latter, they have no curative effect but they do prevent a natural tendency to increase of the prolapse.

3 *and* 4. *The Hodge and Grailey Hewitt.*—For cystocele a ring is unsuitable and it is necessary to use the Grailey Hewitt, or the Hodge with two transverse bars across its lower end. The method of introduction can better be demonstrated in the out-patient clinic than described in the lecture theatre. When the perinæum is so impaired that neither a ring nor a Hodge can be retained, it is better to resort to operation.

5 *and* 6. *Leith-Napier and Zwancke.*—Some patients refuse to submit to operation, and for these a Leith-Napier or a Zwancke pessary may be used. The former is a cup and stem made of soft rubber, and supported by four straps to a waist band; the latter is a somewhat complicated device, known as the winged or butterfly pessary, and like the former it must be taken out every night, scrubbed with soap and water, and cleansed in an antiseptic solution. It is a dangerous instrument to use in the case of dirty, unintelligent women. I once had to remove a neglected Zwancke from a woman who had been admitted for cancer of the rectum; the "cancer" turned out to be the posterior wing of a Zwancke pessary, the anterior wing of which had caused deep ulceration of the anterior vaginal wall and base of the bladder. This happened twenty years ago, when plastic vaginal surgery was not employed to the extent that it is now, and no operation had been devised for the restoration of procidentia.

At the present time both the Napier and the Zwancke pessaries are used far less frequently, resort being made to some combination of plastic procedures. The operations in vogue to-day are Perineorrhaphy, Colpoperineorrhaphy, Anterior Colporrhaphy, Suspension of the uterus, Fixation of the uterus, Interpositio vesicæ, Le Fort's operation, and Amputation of the cervix. I have long ago abandoned the operation of anterior colporrnaphy as an inefficient procedure, but consider all the other methods useful in properly selected cases.

I have for some years performed an operation of my own for cystocele, and have found it a very efficient substitute for the old, unsatisfactory but classical, anterior colporrhaphy.

Fig. 1. shows the cervix and bladder drawn outside the vulva in a case of prolapse of the second degree. A semilunar incision is made across the cervix just below the ridge representing the vesical reflexion. Through this incision the closed blades of a flat pair of scissors are passed, and pushed up between the vaginal wall and the bladder to within half-an-inch of the meatus of the urethra. Fig. 2 shows the scissors lying underneath the skin of the vagina.

Fig. 3 shows the commencement of the separation of the vaginal wall from the bladder, which is carried out by opening the blades of the scissors, and then with-

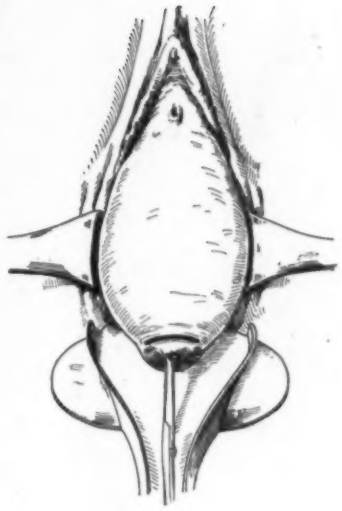


Fig. I.

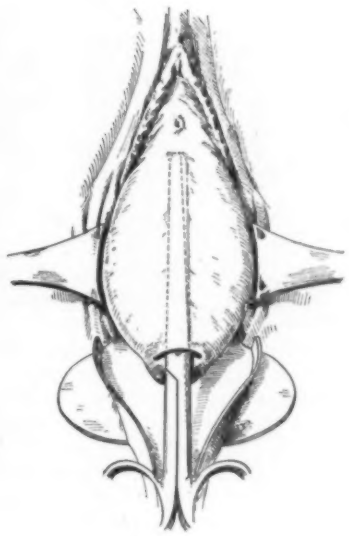


Fig. II.

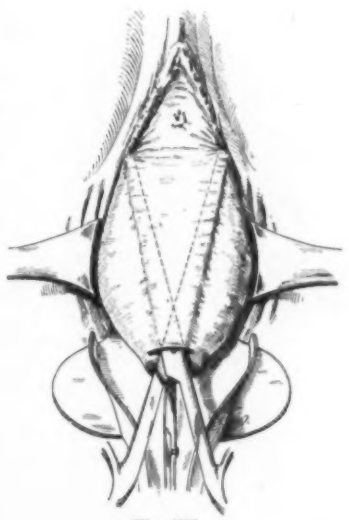


Fig. III.

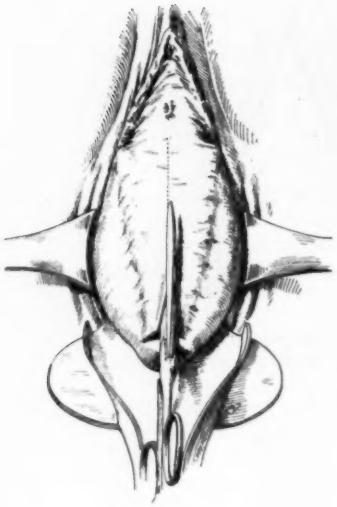


Fig. IV.

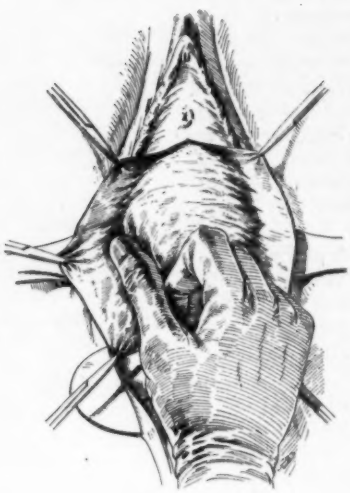


Fig. V.

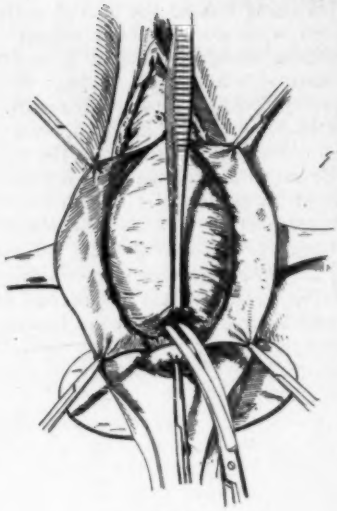


Fig. VI.

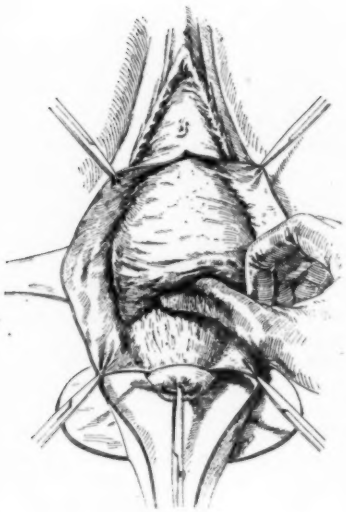


Fig. VII.

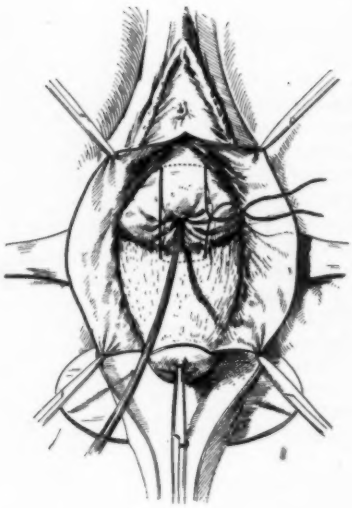


Fig. VIII.

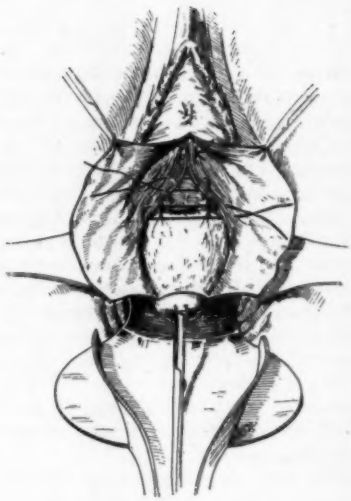


Fig. IX.

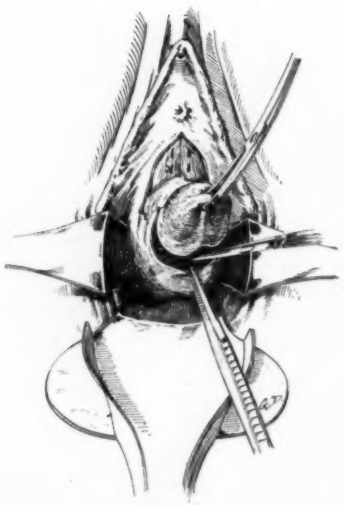


Fig. X.

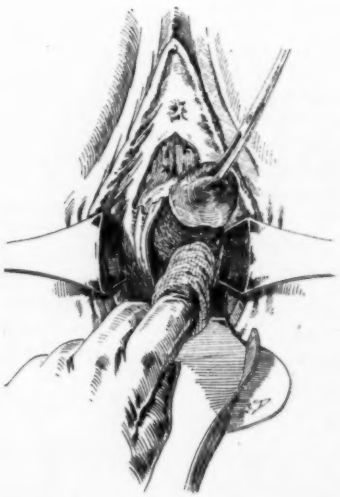


Fig. XI.

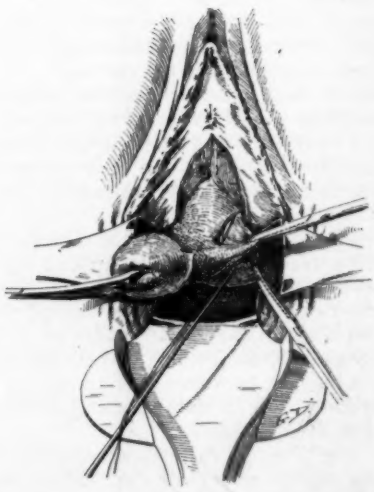


Fig. XII.

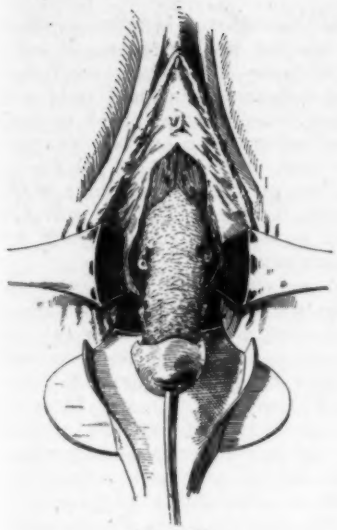


Fig. XIII

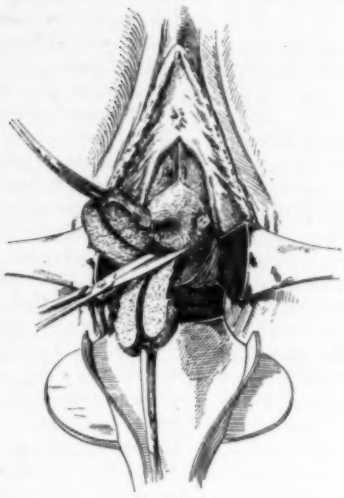


Fig. XIV.

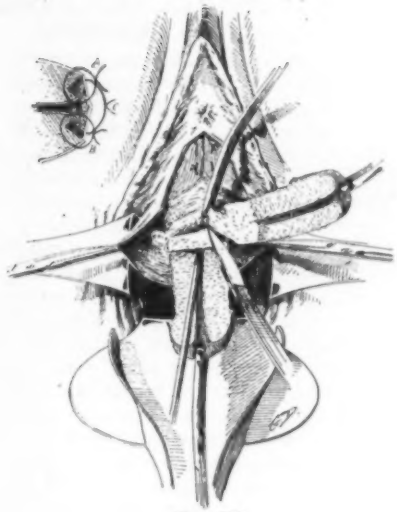


Fig. XV.

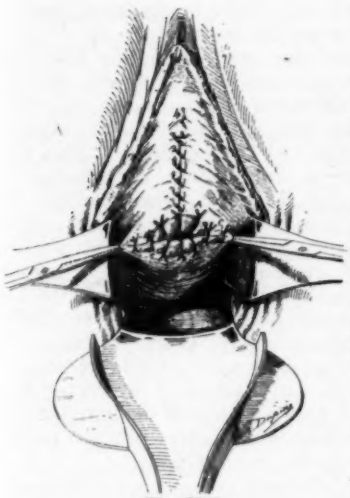


Fig. XVI.

drawing them with the blades still open (this rapid method of dissection was first mentioned to me by my friend, Miles Phillips, of Sheffield). By means of a central incision through the separated anterior vaginal wall two flaps are obtained (Fig. 4), and when these are fixed at their edges by forceps the further separation and freeing of the bladder entirely from the vagina can be carried out by the gloved thumb veiled with gauze (Fig. 5). When the bladder is quite exposed anteriorly and at the sides, its dissection from the anterior wall of the cervix is begun (Fig. 6), by seizing the lower edge of the bladder with toothed dissecting forceps and snipping the vertical strands of connective tissues with scissors curved on the flat, and finally by raising the bladder by blunt dissection (Fig. 7).

When the bladder has been entirely separated from the cervix, it is invaginated and held back, whilst an antero-posterior mattress suture of No. 2 Van Horn catgut is passed, (1) through the lower (urethral) edge of the invagination cup and (2) through the cervix as high up under the peritoneal reflection as possible (Fig. 8).

When this suture is drawn tight the bladder disappears. The "vesical posters" consisting of the retracted levatores ani and aponeuroses are next sought; they lie far back under the ascending rami of the pubes, deep in the angle between the bladder and the vaginal flaps. These are brought together by mattress sutures, three stitches being usually required (Fig. 9).

The cervix is hypertrophied and elongated is then amputated: but this is, of course, not necessary in every cystocele operation. When amputation is necessary, it is carried out by prolonging the original anterior crescentic incision at the sides and posteriorly, thus circumcising the vaginal cervix (Fig. 10).

Fig. 11 shows the dissection behind, being completed by the veiled index finger. The cervix is now free in front and behind and it only remains to sever its lateral attachments (Fig. 12).

The cervix if hypertrophied and elongated is then amputation. To reduce the thickness of the stump, the amputation is carried out by first splitting the cervix (Fig. 14), and then dividing each half by a V shaped incision.

(Fig. 15 and inset), the edges of the V being brought together by catgut sutures, three of which are used for each lip, *i.e.* six in all, three in front and three behind, around the newly-made os uteri. Two lateral sutures are required on each side, and, lastly, the trimmed vaginal flaps are brought together in the mid-line by a continuous catgut suture (Fig. 16).

Then a thorough colpo-perineorrhaphy is performed to reduce the size of the vulval outlet. If the fundus is mobile and there is no evidence of adhesion, I leave it alone, *i.e.* I do not proceed to a ventri-suspension, as is done by so many operators who still perform anterior colporrhaphy.

The above operation is only possible when the fundus is still in the pelvis; for complete procidentia, *i.e.*, when the entire uterus is outside the vulva, I have found Le Fort's operation the best procedure, but would suggest a modification which to my mind is a distinct improvement. Instead of removing two longitudinal strips of skin from the median line of the posterior and anterior vaginal walls and bringing the raw surfaces together, thus making a median raphé, my plan is to make two lateral raphés and leave the central area open, so that a possible discharge from the cervix or body of the uterus may the more easily escape.

There is only one other form of prolapse which requires mention, and that is a sagging of the uretha which is an accompaniment of frequency of micturition and even slight incontinence.

The so-called horseshoe operation does good in these cases. A piece of vulval skin of crescentic shape is removed from the vestibule above the urethral orifice, and the latter is "advanced" by closing the raw surface with stitches passed radially through the upper segment of the mouth of the urethra. The urethra is thereby advanced and drawn up, and the normal vesical control re-established.

OBSTETRICAL AND GYNECOLOGICAL SURGERY.

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CASE 1. **Pregnancy Complicated by Heart Disease.**

The patient whom I am about to present, is a young woman of 23, pregnant for the third time, who has just passed the seventh month and is suffering from a severe cardiac incompetency. She has had a more or less broken compensation since early in her pregnancy, and when she was brought into the hospital a few days ago, was suffering from an acute dilation of the right heart. The pulse at the wrist at that time could not be counted, the rate *at the heart* was about 190 per minute and was markedly arythmic, there was intense dyspnoea, with cyanosis and the skin was bathed with a cold, clammy perspiration. My resident immediately bled her of 600 cc. from the cephalic vein, which procedure gave her some relief by lessening the engorgement of the right heart. She has been under observation for nearly a week, with but little general improvement.

The lesion is a double one at the mitral valve, the heart is considerably enlarged, especially the right heart, and as you would expect, the liver and kidneys show the signs of back pressure. The treatment has consisted of an ice bag to the precordium, morphin to insure quiet and rest, given hypodermatically at regular intervals, at first an eighth of a grain every four hours, which has been gradually reduced to one-twelfth, and digalen in doses of one cc. every four hours for twenty-four, when the interval was lengthened to six hours. We seldom use digitalis preparations for a longer period than seventy-two hours, when it is our habit to swing to some other cardiac tonic, which can be given hypodermically as spartein or caffein. Camphor is always our emergency stimulant. *When a cardiac case needs medication it needs it hypodermically, for the absorbing power of the stomach is defective, owing to the chronic venous stasis.* At first changing her position, talking to her, etc., excited dyspnoea and cyanosis, but for the last twenty-four hours she has been turned on the right side without disturbing the cardiac rhythm, her pulse has come down to between 100-110, and both Dr. Beach and myself are convinced that no further improvement can be made in the cardiac condition, unless the load on the heart is lightened by emptying the uterus.

The child is alive, and so far there is no dilation of the cervix. Her heart is still arythmic and there are numerous small rales at the base of the lungs posteriorly. I am convinced that we cannot give her a general anaesthetic to empty the uterus and I am further convinced that induction of labor with a bougie and bag, putting on her the nervous strain of dilating the cervix herself would surely kill her.

A quick surgical delivery offers the best hope, if we can rob it of the nervous excitement, the struggling, the nausea and the changes in blood pressure consequent upon an ether anaesthesia. These possible complications can best be met in our experience by the employment of spinal anaesthesia, preceded by morphin and hyoscin to induce quiet and sleep.

This patient received an injection of morphin, gr. ¼ and hyoscin, gr. 1/120, two hours ago, and a second hypodermic of an ⅛ of a grain of morphin one hour before the operation. She was sleeping quietly until she was disturbed by our anaesthetist in order to inject the novocain solution into her lumbar spine. It takes about one grain of novocain to produce an hour's anaesthesia. After the solution is injected it is well to elevate the head and shoulders, in order to confine the anaesthetic effect of novocain to the lower part of the body. We will now proceed to deliver her by vaginal hysterotomy. This operation when done in the later months may severely tax the skill of the operator. Our practise is to limit hysterotomy to emergency deliveries before the eighth month.

The technique which we employ is similar to that practised by Doederlein with some personal modifications; with the perineum retracted, we seize the anterior cervical lip on each side of the median line with a pair of Jacobs traction forceps and draw the cervix downward and backward (Fig. 1), one blade of a heavy straight scissors is passed into the cervical canal and the anterior lip of the cervix and overlying mucosa split up to the internal os, which incision exposes the bladder reflection, when the tip of an angular retractor with a smooth, curved edge is slipped under the bladder against the anterior uterine wall, with traction on the cervix, the bladder may be gradually peeled off with this retractor from the front of the uterus and the incision in the anterior wall continued upward. With the traction forceps placed on each side of the uppermost angle of the uterine incision we are able to climb up the uterine wall with the scissors, always having the bladder held well out of danger with the retractor, until we have a large enough incision to admit the delivery of the fetus by either forceps or version. *The former should be the method of choice in head cases.* In this case, as I find the presentation is transverse, we will elect podalic version; there is usually no difficulty in delivering the extended arms and after coming head, if one recollects the steps in the mechanism and the proper sequence of procedure. One thing to remember in all breech extractions is to have *sufficient dilation of the cervix and vulvovaginal orifice.* The placenta is delivered manually in order that we may immediately proceed to the repair of the incision in the uterine wall.

The uterine wound is closed from above downward with interrupted sutures of No. 2 chromic catgut; the incision through the vaginal portion of the cervix is brought together with two sutures of silk worm gut carefully approximating the mucous edges, and finally we close in the wound in the anterior vaginal wall, with interrupted chromic sutures, instead of a running continuous suture, so as not to interfere with the length of the anterior vaginal wall and so antiflex the cervix.

You will notice that the anaesthetist is watching the color and respiration of the woman very closely and that her arm is exposed so that at the first sign of dyspnoea, cough or cyanosis we are prepared to bleed her and relieve the right heart. In cardiac disease, complicating labor, an increased load is thrown on the heart; 1st, *during the expulsive stage,* when the blood pressure is increased by each straining effort during the uterine contraction. This we have avoided by adopting a surgical method of delivery. Second, *during the third stage,* after the placenta is expelled and the uterus retracts, the great volume of blood used in the utero-placental circulation is suddenly thrown back into the venous channels. It is at this moment that decompensation is most liable to occur: bleeding from the uterus does not relieve this engorgement, as uterine hemorrhage is from the wrong side of the heart. *It is here that the employment of prompt plebotomy saves the life.*

*Clinical lecture at Long Island College Hospital, January 5, 1914.

CASE II. My next patient is a young woman, 26 years of age, married two years, who gave birth to a still-born child at full term, some nine months ago. Her physician tells me that the labor was tedious, particularly so after the cervix was dilated and the head was well down in the pelvis, where it remained without advance for six hours; evidently the condition of the child was not watched or the cause of the dystocia appreciated, but forceps were applied and the child dragged through, overcoming and destroying all and any obstructions to its advance.

The result, as you will observe, is a sensitive sacro-coccygeal joint, a tear of the pelvic floor, which beside including the sphincter ani, extended up the anterior rectal wall and a vesico-vaginal fistula. The cervix is practically uninjured and the uterus is in position. Deducing from the apparent results of this labor, it is not difficult to find the cause of dystocia: they are here *in this funnel pelvis, with its deep symphysis, narrow arch* and *close tuberi ischiorum* and *they were also present during the delayed second stage, but unnoticed, hence the injury*. The sphincter was repaired and as you see has partially united, but the communication between the bladder and vagina has resisted the surgical skill of two operators.

These failures, I believe, were due to two factors, which play an important part in the surgery of fistulæ and are too often neglected.

1st, That during the early months of lactation atrophy, the tissues are friable and do not heal well, and the longer you can postpone operation the smaller the fistula will be, as all fistulæ tend to close spontaneously.

2nd, That the surgical treatment must be preceded by preparatory treatment to cure the co-existing cystitis.

This fistula, which is about two cm. in its transverse diameter by one cm. in the longitudinal, is in the trigone, just posterior to the vesical neck, the vesical mucosa, prolapses through the vaginal opening, and when she applied to me for admission to the hospital the edges of the prolapsed mucosa were coated with phospatic deposits and there was pus, blood and mucus in the urine. She has been under observation and on a course of preparatory treatment for about two weeks, which has cured the cystitis, dissolved the phosphatic deposits and softened the tissues involved in the fistulous opening. The treatment has consisted of rest, the copious ingestion of pure water, vesical irrigations of warm boric acid solution, under very low pressure, hot vaginal douches of borax water twice daily, and the internal administration of sodium benzoate, grs. eight, and boracic acid, grs. ten, in cinnamon water four to six times each day.

We will now proceed to close the fistula, which is easily exposed by retracting the perineum. An incision is made in the vaginal mucous membrane following close to the edge of the fistulous opening and the bladder wall separated from the vagina by blunt dissection in the line of cleavage, for a distance of three-quarters of an inch on all sides. The edges of the vesical mucosa are trimmed smooth and the opening in the bladder closed with interrupted sutures of *iodized catgut inverting the mucosa into the bladder*, each suture passes through the muscular and submucous coats of the bladder but skips the mucosa. Before tying these sutures the bladder is irrigated with a warm boracic acid solution, to remove any blood or clots, when the irrigation shows clear, the sutures are tied, cut short and the irrigation stopped. The edges of the vaginal wall are next trimmed and united in the direction in which they can be most easily approximated with interrupted silk-worm gut or silver wire stitches, the wound sponged dry and the sutures tied.

The final step in the operation is the introduction of a Skene-Bigelow retention catheter to keep the bladder drained; this should be worn for about ten days. We usually pass the catheter through a square of iodoform gauze, which protects the labia minor from pressure ulcerations, and then strap the catheter in place with ZO plaster; no irrigation of the bladder is necessary.

It is our aim to secure vesical rest by maintaining complete drainage favored by the latero-prone or abdominal posture, *as long as the bulbous end of the catheter is within the bladder, the patient seldom suffers from spasm or tenesmus*. The catheter is connected by rubber tubing with a bottle at the side of the bed to receive the urine. The catheter should be removed every third day, boiled and reinserted; at the end of ten days it may be permanently withdrawn. The silk-worm gut sutures are removed at the end of two weeks.

The practical points which I have learned to emphasize from an extended experience in fistulæ are:

1. That all vesico-vaginal fistulæ tend to close spontaneously, hence, don't be in a hurry to operate.
2. Cure the cystitis and soften the edges of the fistula before attempting its repair.
3. Separate the bladder wall from the vesico-vaginal septum and close the opening in the bladder and that in the vagina separately.
4. Always irrigate the bladder thoroughly just before tying the bladder sutures.
5. Introduce a retention catheter and maintain drainage for at least ten days. Encourage the patient to lie well over on the side or abdomen, thus favoring drainage.
6. Insist on the ingestion of large amounts of water and sodium benzoate and boric acid to prevent phosphatic deposits and the formation of pus and mucus.

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(*Continued from p.* 136.)

met. Here is the ever-recurring opportunity for education, for keeping the public informed on the marvelous advances in both medicine and surgery. And, of course, people can be warned without being scared as the charlatan seeks to do, and especially they can be informed and encouraged to avail themselves of the new means to health restoring and conserving.

Such publicity would best be managed by joint action of the local medical societies, and might include both articles in the local press and lectures before public assemblies, both of which methods accord thoroughly with recent sociological ideals and movements. People need urging in general to care for their bodies at least as well as for their gardens or motor-cars, and in particular they need convincing that a laboratory examination would prove as valuable to them as to the life insurance company that insists upon it before accepting a risk, nay, more so, since they would then proceed to remedy the evil, as the company would not. Since clearly people need convincing that such organs as teeth, eyes, ears, nose and throat should receive like examination at the hands of specialists; and that just as a business man takes account of stock periodically, so should any man have account taken of himself every year or two. "Business methods applied to the man," would make a good general slogan for general practitioner and specialist alike.

AUTOTHERAPY IN GYNECOLOGY AND OBSTETRICS.

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"Every disease carries with it its own cure," is an ancient axiom. Like many other sayings that persistently appear in medical literature, it contains some truth. Philosophers and wise men have sought the secret spring of life and its relation to disease. They sought it in the boiling pot, and the magic powders of the alchemists; in the stars, in mysticism, and in incantations; scientists delved into the bowels of the earth for new minerals and life-giving waters. The panacea for human ills has been the goal of all ages. Ever and anon we seemed about to grasp it, and almost every generation has heard the cry, "Eureka," but the main secret is illusive and has evaded us. Achilles gave his name to the little flower—the yarrow—that grows by the roadside; for with its medicinal virtues he is said to have healed the wounds of his soldiers. Ponce de Leon sought the fountain of youth in unknown lands across the seas; Hippocrates taught that *"Nature is the healer"* and his *expectant treatment* is often now the best we know.

Bouchet says: "After two thousand years of observation, of experience, and of controversy, the Naturism of Hippocrates yet stands upright." We seek to

"Pluck the luster from the stars,
And loose the jewels at our feet."

The wise men no longer have to search for a remedy to cure a patient suffering with a localized infectious disease; for autotherapy proves that the remedy the patient needs *lies within his body*. In how many diseases natural autotherapy will eventually prove useful time and clinical experience alone will tell.

In former articles the writer reported cures of patients suffering from many different diseases by means of autotherapy. In the present paper he desires to call the attention of gynecologists and obstetricians to the field he believes autotherapy is destined to occupy in their respective lines.

While it is realized that a few cases usually mean nothing, yet the definiteness of the object sought, the rather pronounced cutaneous and constitutional reactions, and the speedy cure, agreeing as they do with the general rules already formulated by the writer in autotherapy, render this method of treating many gynecological and obstetrical conditions worthy of thorough investigation. Reaction to a drug is opposite or a true cure for drug action. A high resistance to a drug may be built up by repeated inoculations of the drug or by repeated drug action. For example, a person addicted to the use of morphin tends to build up resistance to morphin to such a degree that at times he is able to take with little or no manifest drug action an amount sufficient to kill several normal individuals.

In building up this resistance the patient does not establish a resistance to strychnin or arsenic; on the contrary, he builds up directly antagonistic resistance solely to or against morphin. When a sublethal dose of any poison is injected into comparatively healthy tissues, resistance is developed that is directly antagonistic to the toxic effect, or the *anti*, to the action of the poison in question. Let us suppose a person has a localized infectious disease. He suffers from complex toxic substances that have developed in his body through the action of the infecting agent upon his body tissues. In other words, he suffers from his own poisons, which have been elaborated by his body tissues. He is now injected with a turtle, guinea pig, or test tube toxin, or one from some other source. The healthy tissues will then tend to develop resistance to the toxin as they tend to develop resistance to any toxic substance placed in them. This, however, is not the toxin from which the patient suffers, and for this reason the resistance developed by his tissues to these toxins may not be the curative resistance to the disease. But when the patient is autoinoculated with his own unmodified human toxin complex, the tissues will tend to develop resistance to these, and this is the specific resistance to the disease or to the toxins from which he suffers. The resistance to no other toxin or set of toxins is the exact resistance to the disease. The autogenous toxin complex is the ideal therapeutic agent, for with this we will tend to *combat the toxins from all of the microörganisms* from which the patient suffers.

There is no certainty that the toxins or vaccine from one patient will cure any other patient, and there is less certainty that a turtle or a test tube toxin will act therapeutically. In selecting the appropriative curative toxic agent the *individuality of the patient* must be taken into consideration. If a foreign toxin does not act therapeutically, it tends to be harmful, and this at the time when the patient needs all the strength and vitality available. There is no toxin that individualizes the patient as do my unmodified autogenous toxins, or the autotherapeutic remedy. In advanced or severe infectious diseases the infection is usually mixed. Various other microörganisms besides the principal causative agent are present as complicating factors. To be most curative the reaction must be against all the toxins that are in the focus of infection; that is, the toxins from the principal causative microörganism and its set of toxic tissue substances, as well as those of the complication bacteria and their separate set of toxic tissue substances must be combatted.

Complicating microörganisms often present are the influenza bacillus, pyocyneus, staphylococcus, streptococcus, colon bacillus, and one or more of many other microörganisms. It must be admitted that it would be difficult to guess at, or match the microörganisms present with any degree of accuracy with any of the vaccines now in use, for the reason that we cannot always identify the varieties of bacteria. Furthermore, we cannot exactly duplicate the tissue toxic substances by employing stock polyvalent conglomerate vaccines. As far as the autotherapeutic remedy is concerned it makes little difference what they are; all the exact toxins from both causative and complicating microörganisms and all of the corresponding tissue toxic substances of each are in the filtrate ready for use at the bedside.

For the sake of discussion, let us assume the presence of an infectious disease in which there are in addition four complicating microörganisms: not an unusual number. The toxins from these five microörganisms and the tissue toxic substances produced by them make a set of at least ten toxins from which the patient suffers; collectively these are the exact remedies, and are spoken of as the *toxin complex*.

Now, the autogenous vaccine prepared according to Wright contains only one of these toxins and it is of altered or lowered therapeutic value; furthermore, it may not be the right one, or we may not be able to grow it outside the body tissues. The superiority of the autotherapeutic remedy over the vaccine prepared according to the old and faulty formula of Wright is at once apparent. No laboratory process which any

The word toxin is used in a broad sense, meaning poisons or toxic substances.

vaccines undergo in their preparation adds to their therapeutic value; every step in the laboratory process alters them. If a vaccine prepared in a laboratory cures, the cure is due, not to the laboratory manipulation, but in spite of it. The fresh autogenous toxin complex is not very toxic, and giving it is a simple office procedure. Seldom will the temperature rise above 99° F. Autotherapy is of much wider application than vaccine therapy. The results in the writer's hands are incomparable with any other therapeutic procedure. As a prophylaxis to disease the unmodified human toxins are ideal.

It should be emphasized that autotherapy is not a specialized field of medicine. Its pursuit does not call for a particular training in bacteriology or immunology. It does, however, call for particular training in *clinical medicine*, and this *is the specialty of the family physician.*

By the use of autotherapy he again comes into his own. Biologists have never fully grasped the principal which the writer holds to be the keynote in therapy. He would emphasize this principal:

When a sublethal dose of any toxic substance is introduced into healthy tissues the tissues will develop or tend to develop resistance that is *exactly antagonistic solely to IT*. This is so very important to rightly understand and hold in mind that the writer calls this The Law of Identity. The Law of Identity is *The Natural Law of Therapy*. It is the fulfillment of this natural law that causes a spontaneous cure to occur in the tissues. We hold that spontaneous cure of an infectious disease is due to entrance into the blood stream of the unmodified toxins developed in the focus of infection. When this occurs the power of the blood serum is raised and the activity of the leucocytes stimulated, with the resultant development of specific antibodies. In autotherapy the physician simply inoculates the patient with his own unmodified toxin complex which often may be obtained by filtering the pathogenic exudate of the disease through a Berkefeld filter. As more antibodies are developed when toxins are placed in subcutaneous tissues than when they are introduced into the blood stream and as by autoinoculating the patient early the physician may often "steal a march" on the slow natural method of curing the patient, autotherapy has distinct advantages over the natural method of cure.

Giving the unmodified human, natural toxin complex agrees with practically all we know of modern biological therapeutics. In the light of autotherapy the despised drop of mucous becomes a ministering angel of mercy. It is the priceless heritage bequeathed by provident nature to cure the patient. Autotherapy stimulates the bactericidal elements of the blood to combat infecting microörganisms only. It is not expected to cure when surgical intervention is demanded. With autotherapy there will not be such great urgency for surgical intervention, for by its use the patient may often be cured in instances where surgical intervention was formerly demanded. In lacerated perineum, or cervix, in tumors and in other conditions mechanical interference is required; on the other hand, these conditions are at times accompanied with an infection. When this is so, autotherapy will often then make life endurable to those who refuse operation.

In uterine diseases, in affections of the tubes and ovaries, or in pregnancy there is at times a flow of pathogenic mucous from the uterus. These inflammatory conditions have usually been met with antiseptics, and hygroscopic tamponage and hot douches, but it has long been the concensus of medical opinion that while these measures, coupled at times with drastic catharsis, more or less relieve the congestion and the consequent pain, the real underlying cause was not removed, and many of these cases go on later to operation. The author has made tests in some of these pelvic inflammations, in building up the bactericidal elements of the blood to overcome the causal microbes. The splendid vascularity of the parts promised much of success. In the few cases so treated this promise has apparently been fulfilled.

Case 1. Mrs. R., 26, gave birth to a ten-pound child four years ago. There was some laceration of the cervix, and vaginal outlet. Since the birth of the child she has had more or less constant pain in the left tube and ovary. When seen by the writer October 1, 1913, there was a rather constant discharge of bloody mucus from the os. She said this had been present for three years. During the previous week she had to give up work, bookbinding, on account of pelvic pain. There was a spherical mass two inches in diameter at the junction of the left tube and uterus, with tenderness. There were several opaque blisters on the cervix, and this was hard and pouty. Under the usual treatment she gradually improved, but the swelling did not recede to an appreciable extent, and she still had pain in the back.

This treatment was continued until October 20, when, having decided to treat her autotherapeutically, she was instructed to take a douch before coming to the office. A piece of cotton the size of the end of the little finger was spread over the mouth of the cervix. She was told not to molest it and to return the next day. The following day this was removed and placed in an ounce bottle of water. It was then agitated and allowed to stand for twenty-four hours, at the end of which time the water was filtered through a Berkefeld filter, and twenty minims of the bacteria-free filtrate injected into the loose cellular tissues over the biceps muscle. The next day the greater part of the upper arm had the appearance of an extending cellulitis. The writer had previously warned her she might possibly be sick the night following the injection and the arm would be sore, and not to be alarmed, as the vaccination was taking effect. She had a headache and some nausea. Within twenty-four hours the constitutional reaction passed away, as did the pelvic pain. Her appetite then improved and the drawn expression of the face relaxed. She knew she was better, and said, "If I will only stay so." She has had no more pelvic pain. At the end of a week she was given another injection of ten minims. She had some reaction, and some pelvic pain immediately following the injection; these, however, were but transient. She has had four injections one week apart, and has had no more pain since the first, except the transient pains immediately following each injection. She has had no other medication since this treatment was begun. She was back at work in a week, and has gained five pounds in weight. There has been no appreciable discharge of mucus, and no blood since forty-eight hours after the first injection.

Case 2. Patient, 28, has had leucorrhea for nineteen months, beginning one month before her child was born. Since then she has been under the care of two other physicians, who treated her locally with only temporary relief. When first seen the discharge from the cervix was thick, copious and slightly yellow. She said it was formerly greenish in color and streaked with blood. It excoriated the thighs, compelling her to wear a napkin. Her physical condition was bad and mentally she was in great distress. A small tampon of cotton was placed over the cervix and allowed to remain for twenty-four hours. It was then placed in four ounces of water. This was thoroughly shaken, allowed to stand for twenty-four hours, filtered, and twenty minims of the filtrate were injected hypodermically. In twenty-four hours the discharge lessened. Two more injections four days apart completely cleared up the case. The pain disappeared, the discharge stopped, and the excoriations healed. In two weeks from the time treatment was begun the patient was apparently well.

Case 3. Dr. Eric Von der Goltz of New York City reports the following case treated by autotherapy: Patient, multipara, went to him suffering with a hemorrhage from the uterus. He discovered she had pus tubes and an enlarged uterus. There was a muco-purulent discharge coming from the cervix mixed with much blood. He collected some of the discharge and gave a weak, watery dilution by the mouth. The bleeding stopped twelve hours after the first dose. Under the continued use of this medication the infiltration of the broad ligaments subsided; the tubes apparently became normal, and the uterus much reduced in size. In three weeks after the treatment was begun the patient was apparently well, and has so remained for nine months.

CASE 4. Dr. A. M. Ridge of Ogden, Utah, reports the following case cured by autotherapy: "Girl, 18, infected with gonorrhea one month before seeking medical aid. When first seen August 20, 1913, one bartholin gland was distended. The cervix was discharging characteristically. The microscopical examination confirmed the clinical diagnosis of gonorrhea. On August 21 the infected gland was dissected out, the cavity was packed with gauze saturated with iodin compound. The patient was placed in bed for eight days, during which time the wound was treated with iodin. Vaginal suppositories containing iodin were also employed daily. About one-half of a drachm of the discharge, that was free from the antiseptic, was placed in six ounces of tap water and thoroughly shaken. Of this she was given tablespoonful doses while in bed. The local treatment was begun August 30 and continued till September 30. At this time no gonococci were found in the slight discharge by careful microscopical examination, nor were they found in several examinations made during the following month. During the month of treatment a small amount of the discharge was shaken up with tap water and given the patient to drink every other day. Up to March 21, 1914, there has been no return of symptoms. The bladder tubes and ovaries were not involved. At the time the case came to me I had no filter, and hence the crude method."

CASES 5-9. Dr. M. L. Curtis of Vincennes, Ind., reports five cases of severe leucorrhea cured by autotherapy, by making a filtrate from a dilution of the discharge and injecting it hypodermically at intervals.

CASE 10. Dr. O. F. Burrows of Plainwell, Mich., reports: "Miss E. B., 17, came to me in November, 1912. She had been told she had gonorrhea six months before. There was some endocervitis and a profuse vaginal secretion, but I did not believe it specific. I gave local depleting treatment for some time without effect. Then I placed some of the excretion in four ounces of water and let it stand for twenty-four hours; it was then filtered according to your method and twenty minims injected under the skin. In twenty-four hours there was a nice reaction. I told the patient to return in four days for another injection, but found at that time a complete cure had been effected."

The most frequent cause of death following delivery or abortion is infection. In the *American Journal of Surgery*, October, 1913, the subject of Autotherapy in the Prevention of Purulent Infection is treated by the writer. He states in his test cases that he practically threw aseptic and antiseptic surgery to the winds and rarely or never had infection follow accidental wounds. Autotherapy presupposes the patient is infected, and proceeds to utilize the products of infection to cure the patient, or to fortify the patient against all of the infecting organisms. The parts of a recently delivered female are practically an open wound, and should be, and are treated as such. Since they are, then, the autotherapeutic treatment of accidental or surgical wounds would hold here as well.

If the exudate or a dilution of the exudate from any fresh wound is filtered through a Berkefeld filter and the filtrate injected hypodermatically at proper intervals, purulent infection will be aborted.

A corrolary to this general rule that is often more convenient in the application of this principal may be stated as follows:

If the discharge from any extraalimentary or extrapulmonary fresh wound (the most common class of wounds with which we have to deal) *is placed in the mouth at proper intervals, purulent infection will be aborted.*

CASE 1. Patient, age 28, was sent into the hospital by a midwife. There had evidently been a breach delivery, as the body of the child was born, but the arms were locked at the side of the head. How long she had been in this condition is not known. The internes tried to deliver the child for a half hour without success. Then they 'phoned to the writer, who arrived in half an hour. The child was delivered quickly. Assuming this case was infected, he immediately began the autoseptic treatment for the prevention of infection. Accordingly, at the next dressing, six hours later, a square inch of the vulva pad that was most stained and placed in a four-ounce bottle of water. This was well shaken and a teaspoonful of the decanted mixture given every four hours for four doses. This treatment was repeated every day for five days, always making a fresh supply for the day's medication. The patient recovered without apparent infection.

CASE 2. Mrs. F. A. C., 31, was delivered of a nine-pound child June 22, 1912. The delivery was normal and everything progressed favorably till the eighth day, when the temperature suddenly shot up to 103° F., pulse 120. The discharge was foul smelling, face red, abdomen tender. About a square inch of the vulva pad that was most stained was cut out with scissors and placed in four ounces of tap water. It was well shaken and a tablespoonful of the decanted fluid given every four hours for three doses. The next day the temperature was 99° F., and on the following day it was normal.

CASE 3. Professor Wm. H. Freeman reports the following case of puerperal infection cured by autotherapy. The patient had an excoriating leucorrhea during gestation, for which she would not be examined or treated. Following labor a puerperal infection developed. He placed about a cubic centimeter of the lochia in four ounces of water, and gave a teaspoonful every hour for four doses. In twenty-four hours her temperature was normal, and she made an uneventful recovery.

CASE 4. Patient, 28, primipara, was in labor for eighteen hours. She had been assisted by a woman who had a boil on the right hand. The child was delivered with aid of forceps, with some laceration. The writer assumed this case was infected and began the autotherapeutic prophylaxis. Accordingly the nurse was instructed to save the vulva pad every morning so that it could be examined. A square inch of the most stained part was cut out and placed in a four-ounce bottle of water. This was well shaken and allowed to stand for an hour. The fluid was then poured off and mixed with sufficient cocoa to disguise the bloody color. Of this she is given a tablespoonful every four hours. This treatment was carried out every day for six days. She had no apparent infection.

CASE 5. Patient, Russian Jewess, 28, had a retained placenta after the delivery of her second child. This was manually removed in small pieces. The writer explained to the attendant carefully how to put the vulva pad in place. At his next visit he was horrified to find the attendant rolling the gauze around unsterile cotton in the form of a cornucopia and inserting this in the vagina to keep the blood from soiling the bedding. Autothtrapy as a prophylaxis to infection was begun immediately. Accordingly the writer visited the patient twice daily thereafter, taking the vulva pad with him at each visit. The stained part of each was cut out with scissors and placed in a pint bottle with two ounces of water. This was thoroughly shaken and allowed to stand for twelve hours. The fluid was then expressed from the gauze and passed through the filter. Twenty minims of the *clear, transparent, bacteria-free* filtrate were injected hypodermically and the remainder was given to her to drink, in three divided doses, three hours apart. There was a good cutaneous and moderate constitutional reaction following the injection. She was given the filtrate, however, every day by the mouth prepared in the manner described above, but no further injection. By collecting the discharge regularly twice daily, the toxins were given at or near the time the micro-organisms were proliferating.

In this case there were no complications. The patient was out of bed on the tenth day.

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UROLOGICAL SURGERY.*

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Brooklyn, N. Y.

Supposed Renal Calculus.

The first case I have to operate on to-day is a man presented at the last clinic, who has a stone in the kidney. We made the diagnosis by a radiograph, which showed a shadow as large as a five-cent piece in the picture of the left kidney, indicating a calculus. We also catheterized the ureters, and found on examining the right and left urines that the right side contained no pus, urea 8 grains to the ounce, and the left side contained a large quantity of pus, urea 4 grains to the ounce. The indigo carmin appeared in eight minutes on the right side, while on the left side it did not show after waiting 40 minutes.

Now, as to whether I will remove the kidney or take the stone out and leave the kidney depends upon the conditions we find when I have the kidney in my hand. If we find it completely disorganized it will be better to take the kidney out. If it seems to be in pretty good condition it may be enough to withdraw the stone and close the opening with a suture and drainage tube, the so-called operation of pyleotomy or pyleolithotomy.

On account of the condition of his kidney we want to save the patient the strain of the prolonged administration of ether, and so Dr. Erdmann is using a mixture of oxygen and nitrous oxid for the preliminary anesthesia, and then he will keep him under that or will change to ether, as the case requires.

You will notice the block we use for these kidney cases. Getting the patient in the proper position makes a great difference in the facility with which the kidney operation can be done. It is necessary to have the maximum degree of curvation of the body so that the ribs are widely separated from the crest of the ilium, in order to get as much space as possible. One can gain at least two inches by having the patient in this position.

Various appliances have been devised. We used to try sandbags, rubber bags filled with air, and we had a table which was used in some of the hospitals, by which a support could be raised by a ratchet and handle to give the body the proper position. None were satisfactory. I had the idea of this block with a movable peg, like a row-lock in a boat, and by this simple arrangement we are enabled to get a satisfactory position and maintain it. It is the only plan I have ever seen by which patients can be kept and held in a proper position. The position of the legs is also of importance.

*Clinical Lecture at Long Island College Hospital.

The leg lying next to the table is flexed and the superior leg and thigh are extended.

Wooden block with movable pins for giving body correct position in kidney operations.

When the patient is properly placed he is in the best position and you get all the space that there is between the twelfth rib and the spine of the ilium.

Operation.—I search for the landmarks. The junction of the twelfth rib and the outer border of the erector spinae muscle, which lies three fingers' breadth from the spine. I now make the usual oblique incision through skin, fat and muscle until I come upon the glistening fascia over the perirenal fat. Through it I make a small incision which I enlarge with scissors, separate the fat lying underneath until I come to the perirenal capsule. This is held with two pairs of forceps and I make a small incision, then introduce the two index fingers and tear a wide opening through it.

I now introduce my right hand, palpate the kidney, free it from its adhesions and lift it by gentle traction out upon the flank. I palpate the kidney, but cannot find a stone. I now make a small incision through the posterior surface into the pelvis, introduce my finger and explore, and still find no stone.

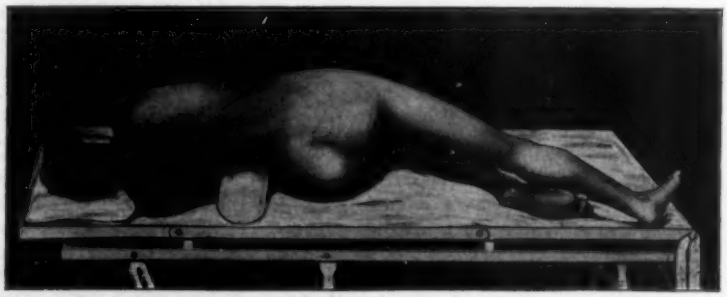
On carrying my finger into the ureter I find the upper part enormously distended for about two inches and then my finger comes to an abrupt narrowing, which is evidently the beginning of the undilated portion.

I scrutinize the kidney with care. It is smaller than normal and upon its posterior convex border is an old cicatrix, which must have given the shadow in the *x*-ray plate.

Now the question arises, having disproved the presence of a stone, shall we leave the kidney in or take it out?

We know by our preliminary examination that we have a sound kidney on the other side and we know that kidney, the kidney on this side, is very badly diseased, and suppurating, and it caused the patient great inconvenience and suffering for many years. It will never be any better and my judgment is to do a complete nephrectomy.

With this object in view, I now proceed to ligate separately the vein, artery and ureter.



PATIENT IN POSITION FOR EXPOSURE OF THE KIDNEY.
(From Morton's Genito-Urinary Diseases and Syphilis.)

Having my ligatures in place and tied, I grasp the stump with a Kocher clamp, so that I will not lose the pedicle after cutting the kidney off, and with scissors cut the kidney away from its vessels. I inspect the pedicle and there is no bleeding. You will notice how distended and dilated the ureter is. I cauterize the inner surface with carbolic acid and neutralize it with alcohol. Of course, it is very desirable to close the ureter, as sometimes there is a regurgitation of urine through the ureter from the bladder. I like to make use of the Paquelin cautery, but we can do as well by thoroughly cauterizing the interior of the ureter with carbolic acid with the idea of disinfecting the pyogenic membrane and also getting up an adhesive inflammation.

In all of these cases we make use of the Mikulicz tampon. It fills in the dead space and the separate pieces of gauze can be pulled out a little at a time.

While Dr. Fraser is introducing the remaining row of sutures we will look at the kidney. On the outside will be seen an old scar where something has damaged the kidney and caused a loss of substance of the tissue.

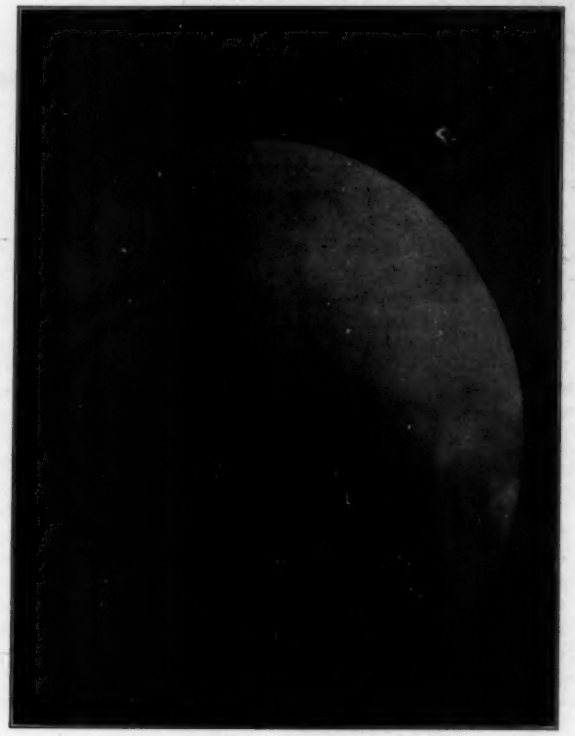
Suppurating kidney, half destroyed and showing old cicatrix on convex border.

The ureter is enormously dilated and distended. I made my incision up through the ureter, did a pyleotomy, carried my finger into the pelvis of the kidney and explored the pelvis in its various calices.

We will now examine the mass of scar tissue on the convex border. It is very hard and dense, and is no doubt the thing which gave the distinct shadow in the radiograph. We cut this to make sure there is no stone. You say there is absolutely no trace of a stone there.

I split the kidney in two halves, and you see that the secreting portion of the larger half is diseased and incapable of functionating. And the urea, which was about half the normal amount, was secreted by the other half, which was still active.

Let us look at the radiograph again and see what we can find in that, now that we really know the true conditions. Here are the ribs distinctly, the spinal column and the ilium, and here you see a round shadow, which looks like a stone and which we all said was a stone. When we found absence of the indigo carmin on that side, large quantities of pus and low urea, we believed he had a diseased kidney, and that we could do a pyleotomy and remove the stone or take the kidney out. It all came out as we said, except for the stone, and, as



Shadow in left kidney supposed to be a calculus.

one old surgeon said to his students, "You always want to carry a nice little pebble in your vest pocket to show the family when you get out of the room." Here we unfortunately neglected that precaution and I have no stone to show. I have to present only the diseased kidney which it was necessary to remove because he was suffering from chronic cystitis and pyelitis.

You will also remember that he was pale and thin and his skin was dry. He had constant absorption of toxins from his kidney and bladder. Now that his kidney is out he ought to improve in his general health and condition.

The radiograph, like all other laboratory or clinical findings, must be interpreted by somebody who understands the signs and, as we found in this case, every shadow does not mean a stone, so that, bearing this case in mind, it may be well to consider that when we do have a shadow unless we have corroborative findings by ureteral catheterization, it will not be enough to make a diagnosis of stone merely because the radiograph shows a shadow in the picture.

A Varicocele. Operation. Comments.

The next case is one of simple operation for varicocele. Dr. Adolph F. Erdmann is going to try a new method of anesthesia by means of the administration of ether by the rectum, and I will ask him to explain the method to you.

Dr. Erdmann.—I am putting into the rectum very slowly six ounces of ether in two ounces of olive oil. It will take five minutes to get it all in. Ether has been given by the rectum for many years, but not to any extent until 20 or 25 years ago. At that time the vapor of ether was introduced, being liberated by having the vessel containing the ether plunged into a hot bath at 110 to 120 degrees. Later etherized air was blown into the rectum, and then, because of the fact that the air was of no value in the anesthesia and produced too great abdominal distension, Sutton conceived

the idea of using oxygen as a vehicle to carry the ether and perfected an apparatus. I discovered that even with that there often was unnecessary distension of the intestines, and in my work at the Brooklyn Eye and Ear Hospital I began to use nitrous oxid gas instead of oxygen and found it worked very well, so that nitrous oxid has generally been used with the ether. Gwathmey very recently devised a new way of giving ether by the rectum, and, so far as we can see, it is a much better way than any one we have yet known.

It is quite necessary to give the patient a half hour to an hour before time of operation a hypodermic injection of ¼ grn. of morphin.

The advantage of the method perhaps is best illustrated by an operation performed at the Eye and Ear Hospital, where a young woman, 18 years of age, was operated upon for mastoiditis. She weighed hardly 100 pounds, and I daresay the ¼ gr. of morphin received as preliminary medication had a great deal to do with the pronounced anesthesia obtained in five minutes after the ether had been instilled; she slept for four hours. In talking with her later she said she never wanted to take any ether again in any other way, because she had previously had ether anesthesia for removal of the appendix. The chief value in the rectal method, she said, lay in the fact that it was pleasant; that she hardly knew when she was under, and did not have any of the smothering sensations of which patients sometimes complain. Rectal anesthesia has a great advantage in operations on the upper abdomen, head and neck. We give the full dose of 6 oz. of ether in 2 oz. of oil, which is assumed to be a sufficiently large dose for an adult, and if I were going to anesthetize a child I would use proportionately less. In this case the ether is being absorbed very slowly. The patient says he must have been dreaming and he hopes we will not be much longer with it. (The patient was taken out of the operating room as the presence of so many physicians annoyed him. He was then anesthetized properly.)

Operation.—We make an incision through the skin of the scrotum, expose the pampiniform plexus, ligate it in two places about an inch apart and cut the plexus between the ligatures.

I now tie the ends of the ligatures together and close the wound with silkworm gut.

In this case, as in all operations on the scrotum, we use for a dressing a piece of gauze over the wound, held in place by tying fast with the free ends of the ligatures.

Hemorrhagic Diathesis.

This man is interesting because of two points. He has the hemorragic diathesis. He is a bleeder and we did a meatotomy on him.

He has enjoyed good health, but has never been very strong and has always showed a great tendency to bleed. When four years of age he was struck on the head with a hammer, and continued to bleed almost continuously until he was 20 years of age. He always had nosebleed. A bubo which was opened bled for nine weeks. A simple cut on the arm bled for 14 days. A small cut on the leg bled for two months. He had gonorrhea three times, for which he was treated and cured.

The present trouble began about a month ago. He noticed that every time he defecated there was a mucous discharge from the urethra. Sometimes this was attended with a little blood, so-called defecation protatorrhea.

Examination by the endoscope on October 9, 1913, showed an enlarged colliculus. This was cauterized with silver nitrate and some severe bleeding followed, which continued for four days.

On October 15 a meatotomy was done in order to introduce the endoscope, and the patient bled severely from the wound, bleeding, stopping and recommencing, five to ten times a day. The only way in which the hemorrhage could be controlled was by tightly bandaging the head of the penis.

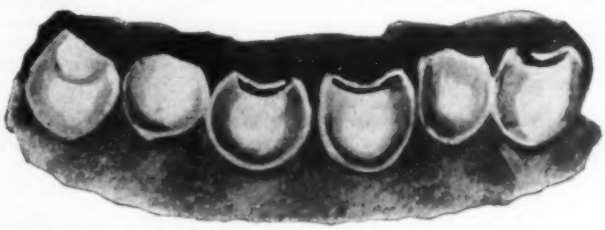
Ordinarily we could do 999 meatotomies and never have any untoward symptoms, but the thousandth will sometimes be followed by a continuous and persistent hemorrhage. The hemorrhage may be due to the hemorrhagic diathesis, or because the artery of the frenum is not cut all the way through. And an incision simply opens up the artery so that it has no chance to contract and retract. The only way to control that sort of hemorrhage is to pass a knife through the meatus and make an incision down through the original wound so that the artery will be completely severed, and then contraction and retraction will take place, a clot will form and the bleeding will cease. If you get bleeding, ascertain if the patient has a hemorrhagic diathesis. If not, divide this artery of the frenum and make a cut lower down. In the present case we tried the ordinary methods, chlorid of calcium, tincture of chlorid of iron, etc., and none had any effect. Dr. Warren suggested that we use horse serum for the effect of increasing the coagulability of the blood. On November 1, 10 c.c. of horse serum were injected and the bleeding stopped in five hours. It began again slightly a week later, and on November 9 10 c.c. of horse serum were injected, and then the bleeding stopped for two days.

Horse serum must be used with some degree of caution, because we always fear anaphylaxis.

The horse serum failed to control the bleeding, which began again quite as freely as before; but yielded to a very old remedy, viz., feeding the patient on eight or ten ounces of calves' foot jelly every day. Using this regimen, in a few days the bleeding stopped and did not again recur.

Inherited Syphilis.

This is a case which is very typical, showing the clinical picture of inherited syphilis. He has the typical pegged teeth (Hutchinson's teeth), which are absolutely



Hutchinson's Teeth. (From Morton's Genito-Urinary Diseases and Syphilis.)

characteristic. The two front incisors have this notch and peg shape, absolutely characteristic of inherited syphilis. Then he has an interstitial keratitis and some deafness from disease of the middle ear. Pegged teeth, interstitial keratitis and deafness or disease of the middle ear form the classical group of symptoms known as Hutchinson's triad.

He has had two or three injections of salvarsan with mercury and treatment for his keratitis, and is ready to go out in very fair condition. His syphilis is not cured. Long standing syphilis needs prolonged treatment, more than we could give him in a short stay in the hospital, but we have saved his eye from destruction, and when he has a chance he can finish up his cure for syphilis.

32 Schermerhorn street.

Special Article

CHRONIC INTESTINAL STASIS.

We are indebted to Sir W. Arbuthnot Lane, Bart., of London, for arousing interest in intestinal stasis. He believes that many serious conditions, such as Bright's disease, cancer, tuberculosis and arthritis are caused by the feeble resistance the weakened tissues make against the inroads of pathogenic bacteria. In an address at the Northeast London Post-Graduate College (*Brit. Med. Jour.*, p. 1125, 1913) Lane said:

"By chronic intestinal stasis I mean that the passage of the contents of the intestinal canal is delayed sufficiently long to result in the production, in the small intestine especially, of an excess of toxic material, and in the absorption into the circulation of a greater quantity of poisonous products than the organs which convert and excrete them are able to deal with. In consequence, there exist in the circulation materials which produce degenerative changes in every single tissue of the body and lower its resisting power to invasion by deleterious organisms.

"The delay of the contents of the small intestine, and also of the duodenum and stomach, results in their infection by organisms and in the development of chemical changes in the stagnating material. These changes, in addition to the mechanical effects already described, bring about an engorgement of the mucous membrane of the first part of the duodenum, which may end in ulceration and perforation; or a similar change in the mucous membrane about the pylorus and along the lesser curvature of the stomach, which may terminate in ulceration, perforation, and later in cancer; or an infection of the ducts of the pancreas, which may produce degenerative inflammatory changes and their consequences.

"The chief symptoms and signs of intestinal stasis are:

TOXIC.

1.—Loss of fat.

2.—Wasting of the voluntary and involuntary muscles.

3.—Degenerative changes in the skin associated with alteration in its texture and color.

4.—Subnormal temperature, especially in extremities.

5.—Mental condition is one of apathy, stupidity, or misery. This may become exaggerated into a state of melancholia, or even apparent imbecility. Headache is a very frequent feature, and may render the patient's life unendurable. Irritability.

6.—"Rheumatic" aches and pains in the muscles and joints, often in the skin.

7.—The thyroid gland wastes.

8.—Blood pressure may be raised or depressed.

9.—Degenerative changes in breasts in the upper and outer zone. Cancer readily develops in this condition of the breast.

10.—The several organs prolapse and alter in shape, partly because of the loss of fat, partly because of the wasting of muscle fibre.

11.—Dyspnea on exertion.

12.—Degenerative changes in heart muscles.

13.—The kidneys are liable to become affected by the abnormal strain thrown on them.

14.—The hair of the head loses its color early in life and tends to fall out.

15.—The pancreas becomes infected directly by extension from the stagnating contents of the duodenum. This results in chronic induration, inflammation, and, finally, cancer of this organ.

16.—In similiar manner the ducts of the liver and gall-bladder are infected, and gallstones, cholecystitis, and cancer may be produced, besides many acute or chronic diseases of the liver.

17.—Those diseases of the eye which are degenerative in origin are produced by and vary with the degree of auto-intoxication.

OBVIOUS INDIRECT CHANGES.

a.—Infection of the gums, causing the condition commonly described as pyorrhœa alveolaris.

b.—Tuberculous infection, when not produced by direct inoculation.

c.—Rheumatoid arthritis. This, like tubercle, cannot develop except in the presence of defective drainage of the gastro-intestinal tract.

d.—Infection of the genitourinary tract, either directly or indirectly, through the blood stream, by organisms other than tubercle, producing nephritis, cystitis, pyelitis, endometritis, salpingitis, etc.

e.—Development of changes in the thyroid gland, whether as adenomatous tumors, general enlargement of the thyroid, or exophthalmic goitre.

f.—Still's disease.

g.—Infections of the skin of a pustular nature.

h.—Infection of the large intestine by organisms which produce the several varieties of mucous and ulcerative colitis.

i.—Ulcerative endocarditis."

In discussing treatment Lane observes (*The Practitioner*, March, 1914) that the medical treatment of today frequently effects only temporary relief. He prefers pure liquid paraffin, administered at regular intervals. The bowel movements lose firmness and are much less bulky than before, for the reason that the amount of organisms, which forms a considerable proportion of normal feces, is greatly diminished. By the use of a spring support controlling the lower abdomen any accumulation of fecal matter in the ileum, the cecum, or in a prolapsed transverse colon, is obviated as far as possible while the pressure on the veins of the splanchnic area keeps the brain better supplied with blood and more capable of carrying on its functions efficiently.

This treatment is adequate, provided that the mechanical obstruction, produced by excessive enlargement of portions of the large bowel or by one or more kinks is not too great. If this be so, and if confirmation be obtained by *x*-rays and bismuth, some surgical means must be adopted to correct the faulty drainage and its results.

W. V. V. Hayes, A. J. Quimby and W. S. Bainbridge presented papers on intestinal stasis at a recent meeting of the medical association of Greater New York. Summarizing this symposium, the *Boston Medical and Surgical Journal* compliments the speakers on their "team work" by co-operating in such an admirable manner. Hayes epitomized Lane's list of conditions and noted that the marked symptoms in his own cases have been debility, loss of weight, headache, nervous irritability and emotional states, lack of concentration, drowsiness, numbness, palpitations, poor circulaltion, soreness of joints, constipation, and, in cases with gastric complications, bad taste, belching, regurgitation of food and acid fluid, nausea and vomiting, erosion of the teeth, and pain between the shoulder joints. Ulcer near the pylorus was a rather frequent complication. The marked physical signs have been pallor, a sallow color or slight pigmentation of the skin, cold, moist hands and feet, and the following abdominal signs, which were very constantly present, and, taken in connection with the toxic symptoms, made the diagnosis extremely simple: 1. Dilatation of the duodenum, readily mapped out by means of percussion with pressure. 2. Pressure paradox. In cases with dilated duodenum when, with the patient in the semi-recumbent or supine position, pressure is made backward and upward for about thirty seconds by the hand placed just below the umbilicus; this usually results in the undoing of the duodeno-jejunal kink present permitting the duodenum to empty itself. 3. Inflated ileum, shown by a marked tympanitic note to the left of and below the cecum. 4. Corded colon. Frequently the left iliac colon is felt as a rope-like body directly behind the abdominal wall, a condition apparently due to spasm of the portion of bowel just above the signoid flexure. To what degree it should be considered abnormal is debatable. Jordan, who has done much valuable *x*-ray work in conjunction with Lane's investigations, has made the statement that the occurrence of duodenal distention is so constant in the subjects of intestinal stasis that he has come to regard it as a trustworthy indication, equally significant, whether positive or negative.

As to treatment Hayes regards liquid paraffin or Russian mineral oil, on the use of which Lane lays so much stress, as holding first place in the way of medication. As it cannot be absorbed, it renders the stools soft, and its action as a lubricant is stated to be so efficient that it can overcome many of the troubles arising directly or indirectly from the stasis. It is not always sufficient by itself, however, and in some instances must be assisted by the administration of suitable cathartics. The food, without being coarse or irritating, should be gently laxative, and should not contain an excess of protein or a large proportion of readily fermenting elements. Exercise of various kinds, as well as massage, is of great value, and correct poise or carriage should be insisted upon. The patient should learn to stand and sit with chest thrown forward, chin and shoulders back, and abdomen drawn upward. In most cases a suitable belt, corset or spring support is indispensable. Surgery, he believes, should not be thought of in the great majority of instances, but is indicated in the marked cases failing to respond to persistent competent medical treatment.

In this opinion Bainbridge entirely concurred, stating that the prevention of chronic intestinal stasis with its aftermath of disturbed function, disease and death, was the prime object sought in the study of this subject. The vast majority of cases, he said, should have been prevented, while hygienic and medical treatment, if instituted sufficiently early, would cure a large proportion. In many instances, however, there came a time when it became necessary to invoke the aid of the surgeon. Whether he should patch and mend, so to speak, the defective drainage system, and thus ward off trouble or should employ more radical measures, was a nice point to be decided according to the exigencies of the individual case.

One heard of the conservative and the radical treatment, but there was no hard-and-fast distinction between the two; for the physician who waited, fearing to resort to surgery, and by this delay rendered necessary, ultimately, a severe operation, was less conservative than one who, by employing milder surgical measures at first, obviated the necessity for a radical procedure. In some cases the drainage system had been neglected until a part of the human plumbing must be removed—that was colectomy; in others it was possible to sidetrack the damaged part—that was short-circuiting. In still others the parts could be patched up; the tubes could be straightened, the angles corrected. It was often difficult to determine to just which type an individual case belonged; in fact, it had to be freely admitted that to-day we were feeling our way along, endeavoring to profit by experience in order to more accurately place the border-line cases.

The cases he described on the occasion in question were of the middle type between the strictly medical ones and those calling for radical operations, and the results of the various procedures adopted have been eminently satisfactory, for, as he said, these patients, formerly suffering from the baneful effects of chronic intestinal stasis had literally been made over through surgical intervention.

H. W. Baker, of Boston, discussing ileal stasis (*Bost. Med. and Surg. Jour.*, p. 235, 1914), says positive diagnosis depends to a great extent on the *x*-ray examination. He believes the bismuth meal should all be beyond the ileo-cæcal valve, in from six to eight hours after ingestion. Not only can the degree of stasis of the ileum be diagnosed in this way, but in the majority of cases the cause, as chronic appendicitis, Lane's kink, Jackson membrane and incompetency of the ileo-cæcal valve. Jordan, Case, Brown, Dodd and others report cases of incompetency of the ileo-cæcal valve, when bismuth enemata were used, in which the bismuth has passed the valve and has proceeded as high as the jejunum and duodenum.

The treatment may be either medical or surgical. In cases where constipation seems to be the cause alone bulky food should be the only diet and albolene, agar-agar, etc., should be given. Three stools a day should be required, preferably after meals. The protein intake should be reduced and the carbohydrates increased, in order to decrease putrefaction. The bacillus bulgaricus may be fed to help decrease autointoxication.

The surgical treatment is indicated where the medical has failed, and always where a true lesion is known to exist. Membranes and adhesive bands must be freed and the raw edges covered with peritoneum, so that they will not reform. If the ileo-cæcal valve proves to be incompetent, it should be repaired by invaginating the ileum into the cæcum and stitching it there and by stitching the torn edges of the habenula. At time of operation the efficiency of this valve may easily be determined by stripping back the contents of the ascending colon and cæcum to see whether it will pass back through the ileo-cæcal valve into the ileum. Then after repairing the valve, test the efficiency of your work in the same manner.

In case these procedures cannot be done we must resort to ileo-sigmoidostomy. In doing this operation the ileum should be obliquely invaginated into the sigmoid, a short way, in order to construct a competent ileo-sigmoidal valve.

Any patient with symptoms of chronic constipation, autointoxication, suspected kinks or membranes, should have a thorough *x*-ray examination.

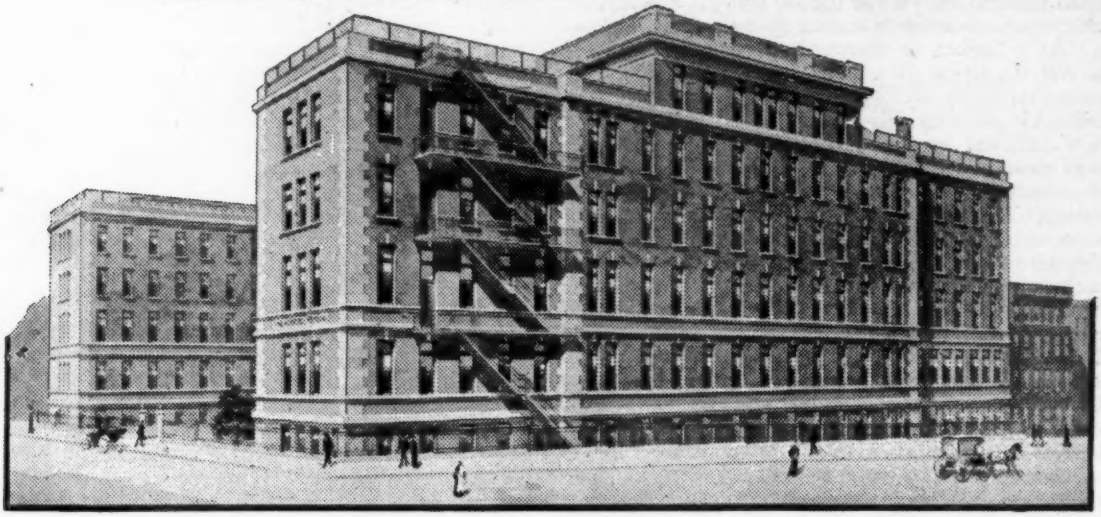
Cesarean Section.

A. B. Davis writing on cesarean section finds the following advantages in the use of the small median incision entirely above the umbilicus: There is no danger of adhesions between the uterine and the abdominal wounds, and the uterus is therefore allowed to involute normally and take up its position in the pelvis without restricted mobility.

In the midline the abdominal wall is very thin; no important structures are divided and the tissues are quite elastic so that a small opening is all that is necessary for the delivery of the child. The small abdominal opening offers much less chance for the escape of intestine and omentum and less opportunity and necessity to handle the abdominal contents. Located above the umbilicus there is much less probability of the subsequent occurrence of hernia through the cicatrix, for it is above the most dependant part of the abdomen which is subjected to the greatest strain when the patient is in the upright position. More support is also given at this point by the recti muscles as they tend to come together toward their upper attachments.

Davis observes that while he has not had an opportunity to examine all of the patients upon whom he has performed this method of cesarean section, there is a considerable number who return for subsequent delivery in this way, or for other causes, and thus far he has not seen a hernia in any of his patients, except in one woman in whom the entire thickness of the abdominal wound broke down, and was closed by granulation. This patient developed a hernia several months later through the site of her cesarean wound in the abdomen.—(*Am. Jour. Obst.*, Dec., 1913.)

Wing of Long Island College Hospital Provided for by Jamison Bequest.



Courtesy of the Brooklyn *Eagle*.

The great plant of Long Island College Hospital will be completed by the erection of the north wing, provided by Mrs. Jamison and Miss Arbuckle, and known as the Arbuckle memorial, in memory of the late John Arbuckle. It will cost over $200,000 and will give the college and hospital a valuation of over $2,000,000.

The Long Island College Hospital has never been able to give accommodations to all the patients applying for treatment; but the new building will give a total capacity of 450 beds, and the present waiting list is expected to vanish after its erection.

The new wing will be of Harvard brick and limestone, of a design similar to that of the present buildings. It will be entirely fireproof, and each floor will be connected to the main building. The main examining room will be on the first floor. On each of the second, third and fourth stories will be two public wards, a private ward, a number of private rooms, a dining-room, serving room, examination room and public and private laboratories.

The work of the Long Island College Hospital appealed to the donors of the new building because of the large proportion of charity or semi-charity cases treated. Of the total number of hospital patients, during the year ending May 31, 1913, about one-third paid nothing for board or treatment, and many others paid less than cost. A total of 4,177 patients were treated in the hospital, and 20,909 in the dispensary. The building of the wing is under the direction of the president of Long Island College Hospital, Dr. John A. McCorkle, who was Mr. Arbuckle's family physician and close friend. The other members of the committee are: Dr. William H. Brinsmade, Percy S. Dudley, Frederick W. Haight, Charles J. Peabody and Albert L. Mason, secretary.

With the completion of this wing the institution will be one of the most complete medical schools in the United States.

Puerperal Infection Treated with Magnesium Sulphate.

J. A. Harrar is of the opinion that in proper quantities and dilutions magnesium sulphate is absolutely harmless when adminstered intravenously to women suffering with puerperal infection. It is of more value early in the course of the infection than after secondary localization has occurred. In the chronic cases of secondary theombophlebitis or pyemia it does not appear to be of benefit. Its action seems to be chiefly upon the organisms circulating in the blood.

Magnesium sulphate shortens the course of the bacterial toxemias in which the bacteria cannot be demonstrated in the blood by culture, and anticipates the establishment of a bacteriemia.

In Harrar's forty-six cases of puerperal infection with blood cultures showing streptococci, previous to 1910, but three survived, a mortality of 93 per cent. In the five cases with positive blood cultures since 1910, treated with intravenous injections of magnesium sulphate, all but one have recovered, a reduction in the mortality from 93 to 20 per cent. While this is a small series upon which to base percentages, a perusal of the case reports and of the temperature charts will show that they were desperately ill patients. and of the class heretofore doomed to a fatal issue.—(*Am. Jour. Obst.*, Nov., 1913.)

Goiter Complicating Pregnancy.

George Gellhorn discussing exophthalmic goiter and pregnancy, believes that the complication of pregnancy and exophthalmic goiter, while comparatively slight in in some cases, may constitute a grave danger to the life of the mother. If the manifestations of Graves' disease are aggravated in spite of medicinal and other conservative treatment, interruption of pregnancy is indicated without delay. The quickest and therefore best method of interruption is by means of vaginal Cesarean section.

Spinal anesthesia with novocain-L-suprarenin is preferable to any other form of anethesia in that it reduces the dangers from any operation on patients with exophthalmic goiter. Girls with well-developed hyperthyroidism should be advised against marrying. If Graves' disease has appeared after marriage, Gellhorn thinks conception should be prevented and if vaginal Cesarean section be performed, tubal sterilization should be added. —(*A. Jour. Obst.*, No. XII., 1913.)

The colon bacillus is usually the cause of cystitis and pyelitis in childhood. Many other organisms such as streptococci, gonocci, staphylococci, etc., occasionally are casual factors. Escherich found the bacillus coli in 58 of a series of 60 cases. Jeffreys reports 67 coli cases out of 121.

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Editorial Addition.

Readers of THE MEDICAL TIMES have been favored with articles in the past by Dr. Edward H. Marsh, of Brooklyn, and we are glad to add him to the Board of Contributing Editors of this journal. Dr. Marsh is Assistant Dermatologist to the Jewish Hospital; Assistant Genito-Urinary Surgeon to the House of Relief of the New York Hospital, and Assistant Surgeon in Dermatology to Cornell University Medical College Dispensary. He will prove a valuable addition to the working force.

The Ethics of Publicity.

Once upon a time our attitude in respect of publicity was not misconstrued and did not detract from our dignity. But since that time we have been "educating the public." This "educated" public now, with some show of logic, accuses us of sinister motives when we insist upon what it calls secrecy.

To some extent prominent members of the professions are defenceless against *exploitation* in the press. It is a common thing for medical men who ought to know better to accuse leaders of advertising when as a matter of fact something one of them has written has been taken out of a legitimate medium of expression, such as a medical journal, dressed up for lay consumption by some bright newspaper man, and served with a picture of the innocent victim taken from some illustrated biographical work. The said victim is oftentimes more wroth than any of his critics. Much of the criticism leveled against eminent men on this score is based upon the assumption that they take advantage of their prominence to do what less known men would not dare to do, that they defy discipline, and that the officers of our societies are timid about calling them to account. This feeling, in our judgment, is seldom justified.

We should all be willing to explain our connection with matters of publicity when called upon to do so, either to justify the personal connection or to show that we were not responsible for the publication. No stigma attaches to purely educational reports in the interest of community health, but sensational accounts of operations or experiments must not be countenanced by reputable men nor by disciplinary bodies, if such accounts are published with the approval and connivance of those so exploited. Such performances are offensive to the best professional standards and must be prompted by sordid motives and vanity.

But in view of the extent to which we have taken the public into our confidence of late years, in the best of faith that such a policy makes for the ultimate results toward which we strive, we must not draw into our shells when an opportunity presents itself to be of real educational service to the community. In the words of Dr. Christopher Addison, of the University of London, recently reported in the *British Medical Journal*, our help and influence as citizens and as trained men should be felt in the education and preservation of healthy and clean-living people, in the molding of our laws, in the administration of them, and throughout the whole organism of society. This is a place they may well occupy in the modern state, and in doing so in a public and collective as well as in a private and individual capacity, they become trusted counselors and honored servants of the commonwealth.

How that great medium of communication, the press, can be ignored in our attempts to live up to what Dr. Addison sets forth as our proper function in the modern state, we fail to see; our utilization of that medium must simply be signalized by dignity and earnest purpose.

And we must remember that all our publications in the medical press are accessible to and utilized whenever thought advisable by the lay press, which properly puts no limit upon its news resources and indeed renders an incalculable and, in the main, well-directed service to the community in reporting what it construes as valuable medical news. Despite all that is said by way of ridicule of newspaper medicine, we dare to applaud the numerous writers who recast our dry stuff in terse, readable English.

The Treatment of Syphilis.

The administration of salvarsan requires so much skill in its technic that the medical profession is coming more and more to realize the importance of having a skilled body of men who shall be particularly fitted for the treatment of syphilis by means of salvarsan and mercury. Now that the first hue and cry, which always attends the introduction of a new specific, is over, and salvarsan therapy has settled down to its proper place in the therapeutic field, the profession is realizing the great possibilities of the drug. It also realizes that the trouble which has attended the comparatively few cases in which serious results have followed has been due in a considerable part to bad technic and, at times, to absolute ignorance of the contraindications to the drug on the part of the administrator.

Syphilis is the most serious disease from which mankind suffers, and, in view of the great variety of its manifestations, it is obviously impossible to lay down any general rules for treatment. Notwithstanding this fact, hundreds of men who are doing general work are treating syphilis by hard and fast rules—giving a cer-

tain number of salvarsan injections, followed by a course of mercurial injections, and then watching the Wassermann reaction. They fail to appreciate the different conditions attendant upon the variations in syphilitic conditions, and consequently fail at times in their scheme of treatment.

The disease is one which should be studied from every angle, and no man should attempt to treat it unless he is capable of carrying out the treatment according to the necessities of each case. Some physicians are of the opinion that a few injections of salvarsan will completely eradicate the spirochetæ pallida. No less an authority than John A. Fordyce, Professor of Dermatology and Syphilology in the College of Physicians and Surgeons, of Columbia University, unhesitatingly says that syphilis can often be aborted by the proper use of salvarsan if taken at the time of the appearance of the initial sore. It is a far cry from primary to tertiary syphilis, and the ability to abort the disease in its early stages cannot, unfortunately, be carried out in the later stages. This means that, while both salvarsan and mercury are always indicated in all stages, the treatment of old and latent cases is far different from that of the disease in its initial condition.

In view of the seriousness of syphilis and of the real ability which is necessary to successfully combat it, it is likely that certain men will come up in every community who will so perfect themselves in the treatment of syphilis and its sequelæ, and will become so proficient in the technic of salvarsan administration that general practitioners will be glad to refer to them their syphilitic cases. It is impossible to say whether these syphilographers will be dermatologists, genito-urinary surgeons or internists, but the fact remains that the more the medical profession learns of syphilis the more it is becoming convinced that the disease, on account of the variety of manifestations of the spirochetæ pallida, will demand treatment at the hands of a man who has put in much thought, and has gained wide experience in the study of this condition.

The Birth-Rate.

Proposals are being considered by various countries regarding possible means of increasing the birth-rate. In France it has been proposed that estates be divided into four parts. If in a given family there should be but two children the State would take two of the parts; if three, one part would revert to the State; if one, three parts would revert; if none, four parts; if more than four, the estate would be divided accordingly and the State receive nothing. It has also been proposed that large families be exempt from taxation. Lastly, it has been suggested that the head of a family should have as many votes as there are members of his family. There can be no doubt that such schemes would be effective, but would we not be sowing the wind and reaping the whirlwind after all? We would wish to see the undesirable birth-rate kept down, however much a higher birth-rate among the better stocks might be desirable. The State would be putting a premium on bad births as well as good, and there would be a harvest of undesirables. Such schemes are enough to horrify those students of sociological conditions who pin their faith to the education of the masses in methods of preventing conception. The subject is a debatable one. Blanket schemes do not promise the best results. Theoretically, what is needed is a means of encouraging a higher birth-rate among the better stocks, and a means of discouraging any births whatever among the undesirable stocks. Clumsy statesmanship in these matters would only intensify our worst problems.

Clinicist (?)

What is to be the solution of the nursing problem? How shall people of moderate means be enabled to secure reasonably good nursing in time of illness, and how, at the same time, shall the professional nursing standards be raised?

For one thing, it has been proposed that nursing insurance be instituted; that is, companies might issue policies covering nursing service during illness. It seems to us, however, that they could not engage profitably in such an activity unless they employed at a relatively low wage nurses who had been trained for one or two years in a hospital. Of course such a corps of nurses should work under the direction of graduates. This plan has been objected to because the nursing profession is averse to the creation or recognition of lower grades of nurses.

We think the necessity for such grades should be frankly recognized, and we see no reason why professional caste should be lowered thereby, as we shall presently explain further. Whether we adopt nursing insurance or not all the grades should be classified. The term nurse should be applied to and used by anyone who attends the sick, *except graduates of hospital training schools.* Some other term should be introduced for the identification of the latter class. Just as the term dietician is a better and more dignified one than cook, so a better and more dignified term than nurse should be adopted by the highest grade of hospital graduate. The medical profession has passed through similar changes of title. Were we not, once upon a time, barber surgeons, apothecaries, *leeches?* Why cannot the nursing profession do as we have done and not try to effect impossible and illy-advised things? Suppose the medical profession had fought strongly against any other class using the term apothecary and had succeeded in restricting the term to those who treated the sick! Well, we should not have raised our professional caste. Surely we are not harmed today by the multitude of apothecaries who surround us, and our differentiation from that multitude is decidedly clear.

Wouldn't it be odd to see our great masters of the brush and canvas attempting to restrain house decorators from using the term painter?

Until such a term as we have hinted at is introduced we have some justification in entertaining the suspicion that the nursing profession is so-called by courtesy rather than by right. Its professional status and caste depend to some extent upon a titular designation that will positively not admit of its confusion with nursemaids and the horde of only partially qualified people who essay to care for the sick. If its members cannot command a better title and have not the taste and perspicacity to drop their foolish attempts to monopolize the title nurse then they are not fit to aspire to real professional grading and their "calling" must remain as it is.

A New Reaction for Indican.

Jolles has devised a method of obtaining a reaction for indican which he thinks is much more delicate and positive than others.

He adds 2 c.c. of 20 per cent. solution of lead acetate to 10 c.c. urine, shakes and filters; adds ½ c.c. of 10 per cent. alcoholic solution of thymol, 10 c.c. of ferric chlorid-hydrochloric acid and 4 c.c. of chloroform. After being thoroughly agitated if indican is present the chloroform becomes of a pronounced violet hue.

Miscellany

Conducted by ARTHUR C. JACOBSON, M. D.

At a recent hospital alumni dinner the graduates discussed their exclusion from the privilege of treating their private patients in the hospital which they had served as interns, and which had placed the seal of its approval upon them as reputable and well trained physicians. This exclusion was voted unjust. One of the graduates with a sense of humor thought that there were consoling features about the situation, however, and told the following story to illustrate his point of view. A colored gentleman subjected the minister and congregation of a fashionable Fifth Avenue church to much embarrassment by attempting to join in membership. As a strategic move the rector counselled him, before carrying out his alarming plan, to go home and talk the matter over with the Lord and report the result of the conference. Later on the rector approached the would-be member and interrogated him on the subject, whereupon the colored gentleman informed him that he had given up the idea of joining the rector's church because of certain information which the conference had adduced. The Lord, he said, had advised him not to bother further about the matter, for He Himself had been trying for many years to get into the same church without success.

Seriously, the men who are excluded from the hospitals have enough to engage their attention and energies in the problems presented by the individual before he becomes a hospital patient and after he leaves. There should be a large social vision. Work in the hospital seems to obscure this vision. Many hospital men—we put it very conservatively—have not awakened to the call of medical social service. The number of people entering hospitals is capable of large reduction, and those leaving must not be permitted to become charges again later. Sociological medicine anticipates the hospital and follows in its wake. It is more interested in the economic and social causes of disease, in disease prevention, and in the convalescent patient, than it is in the hospital phase of medicine, which it is its aim to minimize. We are still in the dark ages of sickness. The hospital men who cannot see this are being passed by, just as the church is being passed by by the progressive forces of society. There are reactionaries in the hospitals as there are in the temples.

You who are not in the sacred circle; you who are without the magic pale; you who are banished into supposed darkness—despair not! Upon you devolve the greater and the more honorable tasks. Constitute yourselves factors in the social readjustment that is in ever growing process of consummation. Align yourselves in the army of regeneration. Forget the grievances of the vanishing past and take up the new thought, the new attitude, the new action.

The study and treatment of disease in a busy hospital leaves but little time for sociological considerations, and men so engaged too often become warped and narrow, however skilful as physicians and surgeons they may be.

Recently an interested physician was discussing these matters with a sociologist of large experience in hospital affairs. "How much," asked the former, "does the average surgeon or physician know about the earning capacity of his patients, as affected by their hospital treatment, and their physical condition—in other words the remote results—five years after discharge?" "How much," replied the sociologist, "does he know five weeks after?"

In an article on the treatment of hemoptysis in pulmonary tuberculosis in one of our leading journals we recently encountered a passage which we reread several times in order to make sure that there was no typographical error—while recovering from the first shock. The passage follows: "It is well to encourage the patient and *to tell him that very few patients ever die from hemoptysis and that by keeping quiet he may escape any serious consequences. A few assuring words from the physician* will go a long way toward quieting the demoralization and panicky fear which many patients experience on the appearance of coughed-up blood. The patient should be told that he can help matters immensely by refraining from unnecessary coughing, by lying quietly, flat on his back without a pillow *and by keeping as calm as his excited state of mind will permit.*"

We have italicized the interesting portions of this passage. One can understand how a physician, in the excitement incident to one of these bleeding episodes, might inadvertently tell his patient something like the foregoing. We know we have ourselves said worse in trying circumstances. But to set down such advice in black and white, and deliberately, is another matter. Imagine what such an unconscious humorist probably accomplishes in the way of alarming his patients in various circumstances. When he gives salvarsan we presume he makes a few earnest remarks anent mortality following immediately upon the injection.

Wonder what he would say to a placenta previa patient?

Whatever the shortcomings of the old-time doctor he at least was not guilty of some of the sins of the present-day practitioner. The accounts balance pretty evenly. We are over fond of indicting the former on various counts, but we do not often think of how we of to-day will appear to posterity. What, for example, will the critics of a later day say about our excessive zeal with respect to psychoanalysis? What the old practitioner treated in his broad-gauge way we, it would appear, are now overdoing. It sometimes seems that the many hours that are now spent with the spoiled darlings of the world, going over and over with them their egotistic introspections, must have their unwholesome phases. We hear of many successes resulting from the treatment of "nervous prosperity," reported rather prematurely as a rule, and one would suppose that further demoralization never ensues. The field of sexual psychopathology, especially, is being fine-combed to-day, the net results of which activity are chiefly a polluted atmosphere and a disgusting literature. The medical capitalization of moral filth is a modern phenomenon. Is it to be supposed that Freudian tinkerings are going to alter innate trends of cussedness, or change the social factors that make for lechery, lues, neurasthenia and brutal selfishness? It must be an ennobling privilege to spend several hours a week with each morbid egotist seeking new psychological experiences and sensations, chewing and rechewing psychopathological cuds, with Freudian condiments added thereto. It should be a well-paid industry. Many of us would pass it up at any price. If livelihood depended upon the choice we would prefer to clean sewers.

Lack of pigmentation in the skin is one of the factors accounting for the deterioration of certain races when transplanted to new countries in which sunlight prevails to a much greater extent than in the normal habitat. Resistance is lessened because there is too little protection against the actinic rays of the sun.

Woodruff, late of the Army, has written much on this subject. The prevalence of tuberculosis among light complexioned peoples in this country is ascribed by Woodruff to pigmentary, deficiencies. While there is doubtless a large element of truth in this generalization it is to be borne in mind that many factors operate to facilitate adaptation. Along with the bad pigmentation factor we must reckon with new conditions which often constitute good factors which did not operate in the country left behind. Moreover, while the immigrant may leave behind him his optimum climate, he may also leave behind him certain bad factors making for lessened resistance and deterioration.

A strange paradox is presented by the notorious gullibility of physicians in respect to bad investments when contrasted with their obtuseness when it comes to the consideration of proposals presented by earnest, honest and clear-thinking members of the profession bearing upon professional abuses. A proposal to invest in some wild-cat mining scheme is listened to with avidity and the bait taken, while the agitation in respect of intra-professional economic evils awakes but scant interest; certainly but little action.

Perhaps the same thing that accounts for retardation in school days explains the ultraconservatism of some of our mossbacks in later life.

Looking Backward.

Most of the old men live largely in the past. Do you know why? The present has grown too large for the old man. In his efforts to keep abreast of the times, he finds his load too heavy. The continual and continuous strenuosity (whatever that means) puts the old man into a reflective mood and he tries to realize just where he is at, and while he sits and reflects, drowsiness overtakes him. He awakes to find the throng with whom he has been going, passing away. Each day brings reflection (shorter) and naps (longer) until finally he awakes to the fact that the throng is wholly out of sight and there is nothing left for him to do except to look backward (reflect and sleep). If you arouse him and get him started on past events, he will possibly entertain you for a while, contrasting what happened in the past with what he thinks is going on now. He will say that the past was a much better time than the present; that people in his boyhood days were superior in nearly every respect to those now living; that boys before the war did not go to school more than three months in the year, and not regularly then; that these boys had very few books, yet were better posted than the boys of the same age are now; that these old time boys could parse and analyze sentences; that the average school marm of the present day could not handle them at all; that said (old time) boy could tell you more about geography in an hour than the ninth grade student of today ever dreamed of. And the funny part of this is, the old man really believes these things. He would stand up in a modern school and quiz advanced classes and try to show them the superiority of past methods. He contends that in the good old time children were taught the why and wherefore of any problem and that the why was dwelt upon until the child knew. He claims that the modern youth is only a parrot and not a very well trained parrot at that.

The old doctor is down with the same complaint. He looks upon the new M. D. as a kind of parody on medical knowledge. He watches the career of this parody as he plunges here and there and wonders how he escapes the penalty of such blunders. And while the old man sits and wonders and nods, Mr. Newdoctor absorbs his clientele and there is nothing for the old doctor to do but to look backward.

Sometimes he is cheered up a little by some dead beat patron telling him that he (D. B.) prefers the old doctor because of his great experience, or by being reminded of the wonderful cures he made on someone who was sick a long time and the other doctors could not cure. The old doctor finds it difficult to understand why he is in the rear and things are not like they used to be.

Moral: Either keep up with the gang or spend your time in looking backward.

L'Envoi.

My Medical Brethren:—

You might imagine from the foregoing that I am "down in the mouth" and that the world has soured on me, or that my professional liver is out of order, or that I need rejuvenating pills or powders. Let me disabuse you of these thoughts. Note the good color in my cheeks and lips, brought there by uncontaminated blood, rich in red corpuscles, incident to good digestion. I eat three square meals a day, sleep the sleep of the just, owe no man anything except good will. I am surrounded by a legion of friends, both lay and professional, who would not see me suffer need. I have been blessed with health, have had my share of pleasure. I can see the ridiculous side of the question and do not grieve over spilt milk. In short, I am as happy as any old doctor can be.

W. P. Howell, M. D.

Charleston, Mo.

Medical Editorial Table

Radioenthusiasm.

The enthusiasm over radium therapy, disseminated largely by those whose personal observations have been very limited, is nothing new in the history of medicine. It is but a repetition of experiences following the introduction of Koch's tuberculin, of Wright's vaccines, of Bier's hyperemia, of Ehrlich's salvarsan, and of numerous other therapeutic discoveries. These have all found their places, not as large as they had been expected to occupy, but still very conspicuous. And so with radium; when the European conflagration has subsided, when the "radium-fieber" has ceased to "rage," this powerful agent will be given its proper sphere. That sphere may be larger even than the present-day enthusiasts acclaim for it, but the present day is for observations, not for predictions. Science is advanced chiefly by enthusiasm —in seeking truths; it is hurt most by enthusiasm—in proclaiming half truths!—(*American Jour. of Surg.*, March, 1914.)

The Interpretation and Management of Low Blood-Pressure.

One of the most illuminating contributions to this subject is to be found in an address by Edward E. Cornwall, of Brooklyn, at the sixteenth annual meeting of the Associated Physicians of Long Island. The clinical value of observations confined to the systolic pressure is small. The diastolic pressure is fully as important as the systolic. It is essential to consider the records of the two together in their numerical relations, that is, the difference between them and their place in the pressure scale; which affords a very useful index of the degree of efficiency of the circulation. If the diastolic pressure fails to fall in correspondence with a failing systolic pressure, thereby permitting the pulse-

pressure (the difference between the systolic and diastolic pressure) to become unduly small, or if, on the other hand, the diastolic pressure falls so low, relatively, that the pulse-pressure takes on a large overload, clinical symptoms of circulatory insufficiency may appear. Low pressure may mean either myocardial degeneration or vasomotor relaxation or paralysis due to toxemias or to nervous and reflex conditions. The diastolic pressure appears to be more stable than the systolic, and to show less often marked variations from its normal without definite pathological cause. It indicates peripheral resistance. Considerable allowance may have to be made for the neurotic factor in the patient. Low pressures due to toxemias can very often be removed. An essential element in the treatment is rest. Strychnin, strophanthus and caffein are useful where there are definite signs of circulatory insufficiency. Digitalis is contraindicated where there is myocardial degeneration and where there is a relatively high diastolic pressure. Otherwise it may prove of great service. Adrenalin and pituitrin are suitable in cases with sudden severe falling of the diastolic pressure due to toxemic vasomotor dilatation. When there is low blood-pressure as the result of severe hemorrhage, the rapid introduction into the circulation of normal saline solution, as well as elevation of the lower part of the body, is called for. In some cases with a relatively high diastolic pressure and a small pulse-pressure, nitroglycerin may prove useful by enlarging the latter, but in cases in which the diastolic pressure is low this drug is absolutely contraindicated.—(*Boston Med. and Surg. J.*, March 5, 1914.)

Athletic Sports Versus Competitive Athletics.

The American public is becoming converted to the need of bodily exercise for great groups of the population, young and old. This is a commendable sign. If the competitive feature could be eliminated and athletics were conducted for the sake of the sport itself, the foremost dangers to the heart and kidneys that now lurk in the struggle to win would vanish completely. In our schools the element of contest involving a mere matching of strength ought to be fundamentally eradicated. Graceful execution of movement and mild rivalry for perfection can be associated with forms of athletics of increasing difficulty in performance. To develop a graded sequence from the easiest games of early youth to the vigorous complex feats of middle life is a scheme well worth consideration on the part of those to whose care the physiology of exercise is entrusted. A successful plan of regulated physical exercise might serve to retain some of the personal zest for outdoor sports which is now too frequently lost in the misplaced enthusiasm for the dangerous athletic extravagances of a selected few.—(*J. A. M. A.*, April 4, 1914.)

Further Socialization of the Profession.

The new Life Extension Institute, headed by William Howard Taft, Professor Irving Fisher, and other eminent men, aims to give, for three dollars per annum, an annual letter to subscribers based on answers to a question blank, together with two annual examinations of the urine; for five dollars, monthly letters on health, the same urinalysis, the initial letter of advice, and, in addition, a thorough physical examination. Special arrangements may be made for schools, clubs, societies, business organizations, etc. Those who see in the foundation of the institute a long step toward socialism, we can only advise, as we have often advised before, to prepare early for longer steps. There is no possible doubt that this institute idea is going to prove immensely popular among the laity, once its principle is thoroughly grasped, and the effect on the practitioner's income and prospects is perfectly obvious. The perfect organization that will result from the work of these business experts must supersede the desultory methods of practice now in vogue. The regular physical examination and careful attention to the advice that follows, will become as much a matter of routine with the average citizen as his business and his recreation. This institute plan is but a small part of a tremendous world movement and whatever may be the wishes of the individual physician, whether he regrets or approves, nothing seems more certain than the eventual organization of the profession into a vast semimilitary corps of health officers, with powers and duties somewhat resembling those of the Public Health Service.—(*New York Med. Jour.*, March 28, 1914.)

The Milk of Tuberculous Mothers Helps to Immunize Their Offspring.

Rivière, basing his reasoning on the part played by the milk of tuberculous mothers in immunizing their offspring, goes a step further and actually hopes the infected milk will give a child a mild bovine infection which by autovaccination will more quickly and more safely immunize it against the human bacillus later encountered, in the same way that Piorkowski tries to immunize us with a turtle vaccine artificially. Perhaps we should go on pasteurizing milk in summer to prevent other infections and give our babies raw milk in winter. If it is really true that milk from tuberculous cows is not only harmless but actually immunizing, why not pass a law that only that kind of milk shall be sold? Recent advances have certainly placed sanitarians and pediatrists in a paradoxical position. How will they wriggle out of it?—(*American Medicine*, March, 1914.)

Tabes Dorsalis.

Twenty-three cases of tabes in which Charcot joints and spontaneous fractures were prominent symptoms, in some of the earliest symptoms observed, are reported by H. L. Taylor, New York, who calls special attention to these features. In eleven of the cases lues was denied, but in the most of these it was extremely probable from the clinical evidence, and it is his firm belief that it is the underlying cause in every case. He thinks one is justified in concluding from this series of cases that: "1. Charcot joints and spontaneous fractures are often initial or early symptoms of tabes dorsalis. 2. They often precede the ataxic gait, and are of diagnostic importance in calling attention to the underlying tabes. 3. Charcot joints are frequently of traumatic origin and often follow fractures, and lesser injuries. 4. The results of orthopedic treatment in early or moderately advanced cases of Charcot joint are extremely satisfactory. 5. Orthopedic treatment by protective splinting should also be used in the loose joints of tabes due to hypotonus before the appearance of swelling and effusion. 6. As ataxia is frequently one of the later symptoms to appear, the term 'locomotor ataxia' to designate the affection is misleading and should be discarded. 'Tabes dorsalis' should be used in its stead."—(*J. A. M. A.*)

A Simplified Colorimeter.

Armstrong has devised (*J. A. M. A.*) an instrument for making colorimetric determinations which he finds very satisfactory and for which he claims accuracy, simplicity, cheapness and light weight.

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

ENERGIES IN ATOMS.*

E. STILLMAN BAILEY, M. D.

FIRST PRESIDENT OF THE AMERICAN ASSOCIATION OF CLINICAL RESEARCH.

Chicago, Ill.

At a previous meeting of this Association I had the honor of projecting lantern slides, prepared by myself, showing the radio-active energy of the various potencies of pitchblende ore when properly triturated with an inert body of sugar of milk.

I carried these through a year of experimental work to the twelfth decimal trituration, and obtained perfectly distinct radiographs upon the *x*-ray plate. We noticed that as the process of division of the atom increased, that is, by continual grinding, that the radio-active energy coming out of the atoms also increased, our mass constantly decreased in a decimal ratio but the energy seemed in no ways to vanish. The lessening in brightness of the picture was attributed to the mathematical withdrawal of nine-tenths of the previous mass; from the scientific view the twelfth potency was more brilliant than the first potency. Thus demonstration of energy taken from the type of matter from the inorganic world, the crystal, had its own lesson. I am asking for a brief moment in this program for a short discussion of the atoms of the organic world whose type and starting point of measuring is the cell as found in all organic life. I am not choosing at random, but rather from historical selection, which you will recognize as the infective agent known to exist in the diseases; smallpox, rabies and typhoid fever.

Dr. Jenner's published description of vaccination as a prevention of smallpox in 1796 is our starting point simply as a period of time. The more recent determination of the values of vaccination against the ravages of typhoid fever is to be briefly considered as the most important discovery of this decade, and the most wonderful control of rabies appeals to us because of the brilliancy of its therapeutic inception and its marvelous accuracy in application, and the establishment of a principle of treatment that has been recognized by all nations and all peoples.

Historically smallpox was known to exist as a scourge among cattle owners two centuries ago because of the cow-pox sickness.

The earliest notice of this vaccination protection is attributed to a dairymaid who became immune to smallpox after a cowpox inocculation. For several decades the rural gossip carried around the virtues of this form of prevention.

Historically, the scourge of smallpox is known in every part of the world. It has been a constant and dreaded destroyer of human life for centuries. *"In the seventeenth century the mortality rate in the city of London, so far as can be ascertained, was not less than 70 per 1,000, and during a part of that time it was as high as 80 per 1,000. During the next century it fell to about 50, but fluctuated largely with recuring epidemics. In the nineteenth century it gradually and constantly fell, and now it is 14.3. The rapid fall of the death rate during the past 100 years would not have been possible had not the discovery for smallpox been made." Historical data are very abundant, but need not be further considered save as corroborative. When the United States Government's health officers were commissioned, with headquarters at Manila, to care for the city and surrounding provinces, they found a death rate of 40,000 per year from smallpox. A decree of universal vaccination was proclaimed and the record of 11,000,000 vaccinations were subsequently recorded. All tribes and members of tribes as far as possible were vaccinated; often it had to be compulsory. Following this universal vaccination, the results have been that since 1905, up to the summer of 1913, there have been no deaths from smallpox, known or recorded, at the Manila Health Department. From a large annual death rate to not one case secures a tremendous argument as to both cause and effect. It may be news to some that the actual identity of the so-called germ of the real cause of the disease had not been actually identified until September, 1913.

It is a protozöon of such infinitesimal proportions that it was isolated only after having passed through a system of porcelain filtration and was found by the ultra-microscope. Adherent to the filter from whence it was removed, studied, identified, and the discovery is accorded to Dr. Walter Forney, staff physician of the Kaiser Wilhelm Academy, Berlin. The confirmation of this discovery was subsequently announced and the claim established that the protozöon can be propagated by laboratory methods. Discovery must always precede application; science must live and labor before art can permanently exist. The almost two centuries of vaccination, some indifferent and very poor and others almost perfect, as new forms of use have been devised, application brings us to this consideration that the actual cause of smallpox is at last known; that the protozöon can be propagated as a pure vaccine, and that in this most recent discovery of less than a year ago the dangers of a mixed infection-virus, which we all know to have existed, will be entirely supplanted by a pure virus, and a vaccination against smallpox will be made scientifically accurate and will be accompanied by an art of application that will be both effective and harmless.

What of all this preamble? It is useful here only in calling attention to that energy that has existed in the atoms. That it has been so illusive provokes only our admiration; that it is so infinitesimal excites our wonder; that it is so powerful that even when it is reported that only a few of these protozoa have been separated, less that one dozen, and that they have been found to be amazingly active bodies under the ultra-microscope, the hope is that all this is to continue to be true.

Try to associate the two facts—that the energy contained in the infinitesimal, isolated and alone, also contains the still hidden power of giving immunity or of being the forerunner of a devastating plague; that the atomic energy has in itself dual selective action, the power of preserving and of taking life.

Why regard mass as the effective and only force when the mass only appears great when its composing atoms are little giants?

Again, let the energy contained in that tiny part used as the vaccine be considered as mighty as an army with banners, since the protective power in its atoms makes and keeps the army as a potential possibility. This tiny micro-organism is more fatal than battles, and is again as beneficent as peace itself.

*Read at the Fifth Annual Meeting of the American Association of Clinical Research, at Chicago, November 8, 1913.

Penn. Medical Journal, November 9, 1913.

Immunity is the Object Desired.—The human factor which produces the active resistance against the invading host is known as immunity. If the system by inherent power resists the bacteria that found entrance in the system, we recognize spontaneous recovery. Bacterial infection takes place when resistance is lowered or absent and the micro-organisms prevail against all opposing forces, the national barriers are broken through. Immunity is the opposite of susceptibility. The natural cure for any infectious disease is made possible by any degree of immunity as may suffice to destroy the invaders. When an animal is immune it has or has acquired, in its make-up, certain protective substances commonly known as *antibodies*, which are present in the blood or in the tissue secretions. Antitoxins act by neutralizing the bacterial poisons and bacteriolysins, which destroy the bacteria and opsonins, which in some way prepare the bacteria for destruction by the phagocytes. In contrast to these are the antigens, which are substances that stimulate the production of antibodies.

Immunology.—It was Pasteur who first demonstrated that material progress in the treatment and prevention of the so-called infectious diseases could only be achieved by the recognition of the fact that the production of active resistance to an infecting agent on the part of a susceptible animal necessitated the introduction of the infecting agent within the animal body; in other words, that acquired immunity, be this absolute or relative, temporary or permanent, is merely a phase of infection.*

Rabies, or hydrophobia, is an acute specific disease communicated by a rabid animal to man. Its mortality was 100 per cent. The recent discovery of the microbe of hydrophobia by Professor Noguchi is rapidly clearing up the mystery of the disease and putting an end once for all to the persistent denials of its existence. I take the liberty of quoting as follows the earliest report:—

New York paper, September 7, 1913.—Dr. Hideyo Noguchi, of the Rockefeller Institute for Medical Research in this city, has discovered and cultivated the germ of rabies. For 30 years pathologists have sought to isolate the germ which produces hydrophobia, but without success. Dr. Noguchi thus describes his work:

"In the early part of 1912 I undertook the cultivations made from the brain and obtained certain results. About 50 series of cultivations were made with the brain or medulla removed aseptically from rabbits, guinea pigs and dogs infected with 'street' virus, 'passage' virus or 'fixed' virus. The method is similar to that employed successfully for the cultivation of the spirochaetae of relapsing fever. In the cultures very minute granular bodies arise, which on subsequent transplantation reappear in the new cultures through many generations. The same bodies, so far as appearances are concerned, are obtained from 'street,' 'passage' and 'fixed' virus. On four different occasions I observed the cultures from 'passage' and 'fixed' virus nucleated round or oval bodies, surrounded with membranes totally different from the minuter granular bodies, although arising in the cultures in which the latter occurred. Their appearance was sudden and their duration four to five days, when they diminished coincident with an increase in granular bodies. In one of the four instances the larger bodies appeared in a culture obtained from the brain of a rabbit previously inocculated with a culture of 'passage' virus, which had given rise to the symptoms of rabies. In two of the instances the larger nucleated body arose in cultures prepared from fixed virus, in which the Negri bodies were difficult to demonstrate either in sections or in films."

Dr. George Gibier Rambaud, director of the New York Pasteur Institute, on speaking of Dr. Noguchi's report, said:

"If this report had emanated from any source other than Dr. Noguchi I would be inclined to discredit it. If Dr. Noguchi states he has successfully cultivated the parasite of rabies, it is true without doubt. I very much doubt whether Dr. Noguchi's discovery will make any immediate changes in the treatment of patients who have been bitten by rabid dogs."

It seemed that this problem was left for its solution to this wizard of the laboratory, and his handling of the ultra-microscope, the latest addition to convey through light and the eye the identity of the individuals belonging to the world of the infinitely little.

The Ultra-Microscope.—This strange addition to the methods of laboratory work came as a necessity. The microscope of the past half a century, glorious as its pioneer work has been, fails utterly in certain forms of research. The microscope with its highest power objective and various oils and stains becomes "near sighted;" it is so near the object to be studied that it cannot be seen; it shuts off its own light. Of course, powerful lights may be flashed from below, but this either destroys the atomic substance or strains the eyes of the student. The ultra-microscope just had to come, and it is so far the last word in the study of the infectious animals. The ultra-microscope is easily understod and managed. Light even as powerful as that from an arc light is spread out in a plane and made many times thinner than a hair. Such rays are made to squeeze in between the lense and the slide, usually at right angles, thus illuminating the object without blinding the observer. This little blade of concentrated light has helped to solve some of the mysteries of a whole century; for example, the causes of smallpox and rabies.

At the International Medical Congress held in London, August, 1881, Louis Pasteur, in the presence of three thousand doctors of medicine from all parts of the world, who received him with an enthusiasm which reflected glory on France, justified the name he had given to his prophylactic experiments.

*"I have lent," he said, "to the expression vaccination an extension that I hope science will consecrate as a homage to the merit and immense service rendered to humanity by one of the greatest men of England—Jenner."

Pasteur's biographer continues the story:

"Great as was the discovery of Jenner, it was but a chance observation which had no ulterior development, and for a whole century medicine has not been able to derive anything from it beyond its actual application, which is the one result achieved. In the French discovery, on the contrary, it is the deadly virus itself which serves as a starting point for the vaccine. It is the hand of man which cultivates the vaccine, and this vaccine may be artificially prepared in the laboratory to a sufficient quantity to supply cell needs."

"What a future is presented to the mind in the thought that the virus and its vaccines are a living species, and that in this species there are all sorts of varieties susceptible of being fixed by artificial cultivation. The genius of Jenner made a discovery, but Pasteur discovered a method of genius."

The work of Jenner had suggested to Pasteur such

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*Louis Pasteur; His Life and Labors.

thoughts as these: How are the effects of vaccination to be conceived? What explanation can be given of the fact that a benign desease can preserve from a more serious and deadly one?

Pasteur's long study of such problems seems to have inspired him. At a certain moment when, gazing at a great bulldog violently insane and fiercely rabid, he said: "The dog is mad, the brain is diseased; let's examine the brain and spinal cord." How simple it all seems now. He took pieces from that brain and spinal cord, made cultures by inocculating other animals, and established by successive cultures a virus with different degrees of virulence, such as can again pass from the weakest virulence to the maximum. Pasteur's summary of this question of his vaccine and its usefulness is stated in these few words:

"The whole question of vaccination resolves itself into knowing at what moment a certain degree of virus attenuation is a guarantee of protection against a mortal virus."

The genius of Pasteurs' proposition—based upon facts—permitted him to frame the above hypothesis, which we shall see has inspired many subsequent discoveries and explained many physiological mysteries and prepared the way to keep an army of research workers busy in seeking the identification of the actual protozoa (the cause), and the energy wrapped up in that infinitesimal part of the virulent atom.

Never in medical history was there such a day as when Pasteur suggested that the real enemy of the human body was a living entity, and that the saving of human life was possible by the attenuation of the attacking virus or by its destruction with chemical or mechanical methods. He thought that the infective cause is atomic in size. The weapons of defence are atomic in energy. The rejuvenated product is the normal atom with normal energy, which is the unit of health.

The great Pasteur reasoned that a rabies microbe must exist, and, though he never found it, he prepared a serum from the spinal cord of an infected rabbit that has been the curative factor against this disease of hydrophobia since 1886, when it was first used in his laboratory in Paris. The Pasteur virus has never been lost. From its first use it has served in the preparation of all anti-rabies vaccine, and 19,200 rabbits have been bred and used in this great work.

Pasteur's treatment has reduced the mortality of rabies to a scanty 5 per cent., and near the entrance to the Pasteur Institute in Paris is the bronze statue of a shepherd boy, Joseph Meister, who on July 6, 1885, without weapons of any kind, fought and slew a rabid wolf that had bitten many children and had terrorized a community. This lad, dreadfully bitten himself and facing a horrible death, was saved by Pasteur's form of treatment, first evolved mentally, and though experimental only so far as application on a human was concerned, saved that boys' life, and since then 96 lives out of every 100 lives before this time paying the foreit to ignorance.

The close of the year 1913 marked the twenty-fifth anniversary of the founding of the Pasteur Institute in Paris, France. Science has consecrated the work of Pasteur, but in a way never dreamed of by the greatest man of France—I refer to only a few of the facts that were presented at this memorial anniversary.

The dedication of the selection of the virus and methods of application have reduced the mortality of the people of the whole world where his message was accepted, as follows: Before Pasteur's time the mortality of rabies was practically 100 per cent.; since, to practically zero. In tetanus the mortality was about 80 per cent.; now to practically nothing. Diphtheria, once 30 per cent., is now about 8 per cent. Meningitis, once 80, is now 20 per cent.; puerperal fever in hospitals, 57 per cent. to less than one-tenth of 1 per cent. Compound fractures, 87 per cent. to less than one-tenth of 1 per cent.

Typhoid Fever.—Inoculation against typhoid fever I claim to be one of the greatest discoveries in medicine of the last decade. Not that its details have been all worked out, but that in its application it has possibilities for the saving of countless lives, and as an economic factor it is one of the greatest of the age. There are a half million of cases of typhoid fever in the United States annually, with a death rate of fifty thousand, and at a cost of more than a hundred million dollars.

The bacillus of Eberth, or later named bacillus typhosus, was identified in 1880, and has been studied by hundreds of earnest workers for 30 years.

The bacillus typhosus is a motile flagellated bacillus 1 u to 3 u in length and 0.5 to 0.8 u in diameter, and the peculiarities are well understood, this includes its peculiar toxin.

It is not my purpose to review this subject. I am desirous simply of bringing to your attention once more these facts of importance—that adult men, healthy men, are oftenest the victims of typhoid or enteric fevers. Armies have been devastated by enteric fever. The rural communities suffer more than cities, and this epidemic always shows the return of a filth disease. One case always shows a previous case, and yet this disease goes on and on, not from ignorance of its cause, but from indifference; not because of its own baffling importance, but because of no authoritative interference and prevention. I refer to the possibilities of vaccination as its preventive. A universal vaccination subject to known restrictions and individual idiosyncrasies.

All discoveries in science carry with them potentialities, and man has been keen to utilize such for his own betterment and to the advantage of his race. I can understand why it is that with the announcement of some new force or energy found in the world of matter, the individuals and communities grasp for its immediate application and benefits to each in a medicine way, but I have not yet understood why the apathy or the ignorance continues concerning this one form of a communicable disease, and one which at the same time is a universally preventable disease. In olden times no crime was so atrocious as that of poisoning wells, and even in times of war the moral sense of those heathen nations was sufficient to prevent such a convenient way of destroying a nation's enemies. The well is not guarded now so well as in barbaric times. I hope the time is coming when an epidemic of typhoid fever in any commonwealth will be just grievance for damage against the municipality allowing its existence.

I copy here a United States Army report, under date of Washington, D. C., December 31.—The army got through the year 1912 with only two cases of typhoid fever in the enlisted strength of more than 50,000 officers and men. One was that of a man who had not been immunized with typhoid vaccine and was believed to have contracted the fever before he enlisted; the other case was among the troops in China, and, though the man was immunized in 1911, the history of the case is in doubt.

The navy, which adopted the vaccine later than the army and did not make its use at once compulsory, had among its 80,000 jackies only seven authentic cases of typhoid in the year ending last June. Four of those

were treated at a remote tropical station, where the vaccine had deteriorated.

Such is the wonderful record of the prophylactic treatment which has wiped out one scourge among the nations' defenders, and which many medical officers believe has had something to do with decreasing the rate of tuberculosis. Before the resort to immunization typhoid cases in the army averaged about three a thousand enlisted strength, or about 250 cases a year. In 1910, before the beginning of the treatment, the rate was 2.32 per 1,000; in 1911 it dropped to .80; in 1912 to .26; this year the rate is practically nothing. Some scientists have thought that the prophylaxis involved an increase of liability to tuberculosis. Army surgeons who have been analyzing their figures feel that they have established the fact to be exactly contrary.

Ex-President Taft, in May, 1911, said that 90 per cent. of the volunteers in regiments for the Spanish-American War had typhoid fever in less than eight weeks. All had been vaccinated. Only one case of typhoid was discovered, a teamster, and he had not been vaccinated. A single report in civil life is one of many that confirms the vaccine treatment against typhoid fever.

Vaccine treatment for typhoid fever is upheld as successful in the issue of the *Medical Record*, September 20, by Dr. W. H. Watters, of Boston University, who has been investigating for six years. He presents statistics showing that where the anti-typhoid vaccine was employed the mortality was only 4.7 per cent. "It will be seen, therefore," he adds, "that the advantage lies entirely on the side of the vacines. I may further add that in no instance have I been able to detect any injury or harmful effect even in those cases in which there was no demonstrable effect."

Of 1,120 cases which other physicians reported to him as treated with vaccine, there were 71 deaths. Dr. Watters said that an early diagnosis is most important, and suggests that when the disease is suspected the blood culture method of detection be employed.

I have not willingly trespassed, knowing as I do that you are familiar with such facts as I have presented, but permit me to refer to the works of men who have creative genius and can do detail work to the limits of teasing out nature's secrets, be they either microscopic or macroscopic. I quote from the pen of Dr. Victor C. Vaughn in summary of conclusions on the newest phase of "The phenomena of infection."

"We have learned in recent years that the ferments produced by the body cells may be and are modified under certain conditions. The cell may form a wholly new ferment or one whose activity is so modified that it may be so regarded. It is neither a new ferment or the old one greatly modified or intensified in its action. We have utilized this function of the body cells for more than a hundred years in vaccination against smallpox, but this use has been wholly empiric until recently, when it was scientifically explained by the researches of von Pirquet.

"Smallpox virus is pathogenic to the man who has not suffered an attack of the disease or has not been vaccinated, while to the man who has recovered from the disease and to the one who has been properly vaccinated it is not pathogenic. By the introduction of the vaccine organism—which is a virus—the body cells are trained, as it were, to digest and destroy its protein, and this leads to the immediate destruction of the virus on subsequent exposure to the disease. The same principle holds in typhoid vaccination with the dead bacillus now so widely and successfully practical."

The infection bacteria contain an intra-cellular poison. This poison is a group in the protein molecule; it exists in all true protein, in all pathogenic and non-pathogenic bacteria. In most vegetable and animal proteins the poisonous group is neutralized by combination with non-poisonous groups, consequently such proteins have no poisonous action until they undergo molecular disruption.

"The poisonous group is common to all proteins; it is probably not chemically identical in different proteins, but is so nearly so that its gross toxicologic action is the same. We designate it as the central, or primary group in the protein molecule. This primary group is poisonous because of the acidity with which it combines with secondary groups in the protein of the animal body.

"The specificity of proteins lies in this secondary non-poisonous groups. It is in these that one protein chemically and biologically differs from another. Biologic relationship among proteins is determined by the chemical structure of their molecules. There are as many kinds of proteins as there are kinds of cells.

"The specificity of the infective bacteria does not lie in the poisonous group of their proteins, for this has the same action in all, but in the non-poisonous groups. The poisons that kill in all the infectious diseases are the same."

Again, I ask your attention to the reference to the real energies employed as existing in the atom rather than in the mass.

Jenner's remedy was in the use of the same cowpox virus simply from one arm to another arm, a limited remedy, and always the same. Pasteur and all research workers recognized the universal intrinsic value in attenuating the bacterial virus or sera, using a small initial dose and increasing it according to indications, thus developing *a true similimum*.

Nowhere in all the infective diseases treated with vaccine or sera is there any suspicion of using a *contrarium*. The infective and protective activity in all vaccines, sera, etc., is measured by energy and not by its mass. Its unit is always atomic.

THE BIOLOGIC PROPERTIES OF MESOTHORIUM.*

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Mesothorium has but recently come before the medical world on account of its therapeutic possibilities. The qualities and good results which have been obtained by the use of mesothorium and its decomposition products seem destined, then, to supplant the bromide of radium (Caan). I intend to treat on the biologic effects of mesothorium and its decomposition products. It was first discovered by Otto Hahn, and it has a high atomic weight, similar to polonium, radium and kindred metals. Mesothorium is a decomposition product of thorium, which is found in monazite sand (principally Brazil and Utali). According to the decision of the New York Board of Appraisers, mesothorium is an element. It is produced from alkalies used in the manufacture of thorium. Pure mesothorium emanates *b* and *x*-rays; but there is always present a radium impurity along with a decomposition product of mesothorium, which we call radiothorium, and these two substances emanate *a*-rays, together with the former. The mesothorium *b*-rays have less penetrability than the *x*-rays, and these "soft" *b*-rays explain the different biological ef-

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fects of radium and mesothorium. Mesothorium is applied by plates of varnish, capsules and metal tubes containing not the pure mesothorium, but its salts.

The modern method of application is based on the measurement of the rays, combined with the gradual filtration of these rays, by means of which it is possible to select the desired ones. The "cross fire" method of radiation is now popular. The envelopes of the container separate and filter the rays. India rubber is permeable for the *a* (radium impurity) and hard *b* rays. Aluminum gives off deleterious and secondary rays. Lead plates filter off the *x*-rays. The stronger the filtration, the longer is the time of radiation necessary. The hard rays may be applied for 200 hours. It is sometimes advantageous to use instruments by which the internal organs may be reached. A graduated stomach sound is used for the esophagus, and it is possible to have this instrument in place for two hours without causing discomfort.

Mesothorium was first used therapeutically by Tracy, who in 1904 tried its effects on tuberculosis by inhalation. It kills tubercle bacilli in from three to five days when placed on either side of a paper containing them. Von Bolton found that metallic thorium acts favorably on animal life, but unfavorably on plant cells. This partially explains its action on bacteria. Mesothorium is unfavorable for autolytic ferments. The *b* and *a* rays are neutral to digestive ferments (pepsin and diastase par ex.). These rays exercise an intense influence on the skin, which expresses itself in retrogressive and productive processes. "On this fact is based all mesothorium therapy (Chalupecksy). Radiothorium is the decomposition product of mesothorium. Radiothorium (*a* rays only) has been injected undissolved into tissues and it has active working properties. The biological effects of thorium (thorium is a solution of radio-thorium) and thorium emanations have also been noted. The effects on ferments are as follows: 1. A mixture of soluble radio-thorium, thorium X, and thorium emanation, as well as thorium X alone, influences autolytic ferments (particularly thorium X and thorium emanations), showing a brilliant activity. There is an increase of cell productivity.

All these effects are analogous to those of radium solution. Large quantities of thorium emanation can be shown in the expiratory air and urine after ingestion of mesothorium and its salts. It takes, however, more than one hour's inhalation to show effects either in the air or urine. Mesothorium shows no effects on the budding powers of yeast. The differences of thorium and radium activities have yet to be shown. Bacillus coli communis is not affected by thorium X in large quantities. It does lead, however, to duo-development of embryological plant cells. Thorium X on inspiration does not affect inspiration or expiration either in depth or frequency as regards the normal individual. But in pathological cases the type of breathing was favorably changed. Raised blood pressure came down and remained so for weeks after injection of the salt. After injection it appears mostly in the urine and only a little in the sweat. When excreted quantities are reckoned it shows that 80 per cent. is kept in the body. Therefore it is easy to account for the prolonged action and also for the danger of accumulative effects. As the reactions are days in appearing, one must beware of these effects. Those cases which come to autopsy, and where an excess had been used, showed hemorrhages in the duodenum and other portions of the viscera. It is preferable to inject small doses daily and thus reach the maximum. In such treatment great cleanliness of the colon is necessary and intravenous injection is better than intramuscular, as the latter may cause necrosis.

The greatest activity of thorium X is found in the bones; the next in the muscles, then the heart, and finally in the liver (Schazi). After 24 shows 64 per cent. of the substance is in the medulla of the bones. In respiratory experiments a gradual rise of CO^2 and O used was found. The blood is very active and we have a quick and strong diminution of the leucocyte count, found both in the normal and abnormal animal. In a rabbit after an injection of 500,000* M. E. there was a diminution of leucocytes in seven days of 400. In normal man, during five days, the number fell from 10,000 to 4,500. An examination of animals treated with high doses show a great disturbance of the splenic pulp, a disappearance of adenoid tissue and degeneration of the chromaffin cells. In large doses cells disappear in the medula of the bones and there is hemorrhage in all organs. The testicle is unchanged. As yet there is no agreement as to the amount necessary for a fatal dose. In all animals poisoned by thorium X we have, on the first day emanation, a drop in the number of leucocytes, total number of all blood cells diminishes; second day, the amount of hemogloblin diminishes, the blood pressure goes down and the spleen diminishes in size; third day, all the leucocytes die and disappear. Between treatments Werner injects choline. A. Pinkus thinks mesothorium better than *x*-ray and radium for deep tumors. Frielander says that he has stopped uterine hemorrhages much quicker than with *x*-ray. It was especially beneficial in myomata in old women.

Thorium therapy has only just begun and, biologically speaking, is very interesting. Time alone will show how much it is in advance of radium.

There is an essential difference in the way thorium and radium emanations are used. As the life of the thorium emanations are very short, they cannot be inhaled, and even when inhaled by specially constructed apparatus they did not prove efficacious in the case of gout and rheumatism. It has been used in the "drink cure," and thus the emanation content of the blood has been raised. Different men give different doses, some as high as 100,000 M. E. a day; others only 1,000 M. E. There is much confusion as regards this, and there is a possibility of overdoing the drink cure. The cure helps chronic, painful rheumatism and the pains immediately grow less. It is possible to place a million M. E. in 100 c.c. of fluid; therefore it is possible to send thorium emanations to all parts of the body. Patients having bad cardiac dyspnea could breathe easier. As mesothorium acts as a vaso-dilator, it explains the great diuresis in the case of dropsy. As a result of the diuresis in obesity, we have diminished weight. In gout we have an immediate reaction, the uric acid excretion is greatly increased, and the extremity becomes smaller. As regards the action of thorium X, the most striking example of this is in the case of leukemia; the number of leucocytes falls to normal even after one injection, both in the lymphatic and myelogenic forms of this disease.

The maximum for injected doses is 5,000,000 M. E. In pernicious anemia after one day's treatment with a "Reizdose" of 20,000 M. E. there was a noticeable increase in the red blood count. Thorium therapy has only just begun and is very interesting. Time will show how much it is in advance of radium. Fibroid tissue is formed in from six to eight days, and the amount increases from day to day. Numerous capillary cells appear and, beginning at a period ranging from 10 to 20 days, vacuole cells are formed. The fibroid tissue

*One mache-unit is equal to about 80 volts per hour in the Fontaktoscope.

divides into small clumps and finally disappears entirely. In some cases there is a localized infiltration of leucocytes. During treatment the lighted irritation should be avoided. Mesothorium influences the growth of malignant tumors in a most favorable manner. After treatment of cancer of the esophagus even solid food could be ingested. It has been successfully used in cancer of the mamma. Usually the secretory processes were much increased and therefore wounds healed slowly, with no recurrence. Carcinoma of the tongue was improved. Tumors in the mucosa of the cheek and mouth were refractory and even became more malignant.

Thorium X is used for injections dissolved in normal salt solution, one c.c. containing 1/1,000,000 milligram. The activity of thorium X increases 10 to 20 per cent. the day after production. Then it decreases daily, so that in three or four days it is only one-half as effective. Only thorium D has *x*-rays. Intra-tumoral injection ic technically simple. When used for intravenous injection thorium X is diluted 10 by a normal salt solution. When injected by either method the effect is to irritate the mucosa of the intestine, particularly the large intestine. Therefore it is necessary to purge continually in order that the thorium X will not stay in one part of the intestine. The effects of ingestion are nausea and vomiting. The histologic changes of thorium X do not differ much from those of mesothorium. There is damage done to specific parenchyma and sometimes internal hemorrhage. Then a reaction of the stroma sets in and we have fibrous tissue formed. The retrogressive changes are limited to a lymphatic increase. In 20 per cent. of certain cancer cases thorium X was better than radium.

Barns in Neisser's clinic thinks it is as good, as radium. Czerny and Caan think that for superficial ulcers, angioma, keloids, it is better than radium. Even for deep-lying tumors it is as good as radium. Czerny and Caan advocate the external application of mesothorium as an adjuvant to thorium X treatment in malignant tumors.

Discussion.

Dr. Gibson Denver:—It strikes me that the papers of last night and the papers of this morning are all along the same line and should be discussed more or less together. Dr. Bailey has opened up in his paper this morning a wonderful theme. When we know that an atom of hydrogen, for a long time considered to be the smallest quantity of an element, is composed of practically a thousand electrons; that every atom of matter is composed of electrons, and as far as we know an electron is basic electricity, is it unreasonable to think that diseases of all kinds may be ameliorated, cured or changed by electrical currents or conditions, higher frequencies and higher vibrations of matter? Dr. Blackmarr here last night gave us a wonderful demonstration of the powers of radium and emanations of radium; in other words, a demonstration of these higher frequencies of vibration. Radium has probably the highest vibrations known. We know that *x*-ray vibrations are three and a half times faster than the human eye can see, and probably at the present time we are not using one-fourth of the utility of the *x*-ray, anything like the octaves in vibration that are possible. It is not the radium in the vibrations; it is the vibration that does the work. We get vibrations now from so many things—radium, high frequency electricity, *x*-ray, etc. Dr. Blackmarr uses radium to reduce high arterial tension. I use the *x*-ray. In less than five weeks I reduced the arterial tension of 190 to 160 in a man of 75 without cutting down his regimen. It is wonderful what high vibrations will do. These high vibrations, intensified, cure cancer, arteriosclerosis, help tabes dorsalis and will cure tuberculosis—this is the point I wanted to bring out last night in my paper—when we can attack these cases in the glandular stage and even later. I consider that the *x*-ray can be used in the second and third stage of tuberculosis even, with as much certainty of a cure in a majority of cases as we can use quinine for malaria or mercury for syphilis. With *x*-ray and Ruck's vaccine we can wipe early tuberculosis from the face of the earth. I have had no failure with Ruck's watery extract of tubercle bacilli in advanced cases. I have been able to take skiagraphs before and after treatment, and I have been able to detect by actual measurement the absolute shrinking of the bronchial and mediastinal glands before and after treatment. You can't get a fever too high but you can benefit it with the *x*-ray. I believe that with the family physician taught to get these cases early for treatment we can absolutely control the scourge of tuberculosis.

Dr. Tenney, Chicago:—Dr. Bailey saw the possibilities in electricity before anybody else ever thought of it except as a plaything; the possibilities in radium when everybody looked upon it as a curiosity. I examined into the results of the Buffalo experiment in fish cancer. The fish were killed at various stages in their recovery from the use of very minute doses of bichloride of mercury. Electroselenium injected subcutaneously did not give good clinical results; intramuscularly, gave occasionally a good result; while intravenously it gave the best results. In a case of cancer of the stomach which I was deeply intetested in, gastroduodenostomy was performed, and the improvement with the resumption of the normal nutritive processes has been so marked that I did not feel justified in attempting the electroselenium as yet. Instead I used the radioactive water supplied me by Dr. Blackmarr, and the results of this treatment, which has been the only treatment since the operation, have been so marked that the patient, a man of 76 sometimes wonders if there was ever anything wrong with his stomach. He has no pain, eats heartily, digests his food with apparently no difficulty, is gaining in strength and in weight and from being a mere skeleton, having gone for nearly three weeks with very little except artificial alimentation, is now taking walks by himself every day of a mile or two. The whole pyloric region was infiltrated with a very dense mass of carcinomatous tissue, extending fully an inch and a half to two inches into the duodenum, and toward the cardiac orifice for two and a half inches on the lesser curvature and three and a half inches on the greater curvature. There were metastatic tumors through the liver, the intestines, and the immediate mesenteric glands were involved. The improvement of this pronounced case is really wonderful, and I cannot attribute it to anything else than the use of the radioactive water after gastroduodenostomy.

Dr. Bailey, Chicago:—I will ask Dr. Krauss to solve this problem, if he will. I will put it on the board. In a test tube in a pathological laboratory in the State of Kansas there was a germ. We will mark it "i." In two days' time that germ had multiplied until it occupied a position in that test tube of this unthinkable number: 1,000,000,000,000,000,000,000,000,000. The energy wrapped up in that atom that germ, is an untninkable, undemonstrable thing to the human intelligence, yet there in size, form, motion, life and reproduction. Now, the only possible way that it can be applied in medicine to my notion, and that is what I am asking Dr. Krauss to solve for me, is that it isn't the thing itself, but the life or the bioprotoplasmic energy that is wrapped up in it that produces the multiplicational medicine; and if this germ is a menace to human health it cannot be that the germ "i" has to be destroyed in order to stop the disease, for there is still the accumulating energy left, the vaccine seems to be true to its clinical significance.

Dr. Krauss, Boston:—As members of the American Association of Clinical Research we must revise some current notions. I would take exception to calling a bacterium a germ, or an atom a germ. A germ is not an organism. Bacteria are organisms. They are micro-organisms, but, nevertheless, fully developed organisms. The term "germ" ought not to be used as equivalent to a bacterium or an atom. If this number "i" stands for the idea of an atom my answer is ready. An atom is a conception. Nobody has ever seen an atom. An atom is a chemical concept and stands for a chemical unit of matter as a molecule is a physical concept standing for the physical unit of matter. Concepts are units of thought, and we require them for the intelligent, scientific communication of our ideas. Without concepts we could not talk five minutes intelligently and formulate notions about the phenomena of the universe. The wider the knowledge, the wider the concepts. Van't Hofft found that salts in solution do not have their molecules intact, but are broken up into ions bearing electric charges. He concluded that just as a molecule must consist of two atoms, so each atom must consist of at least two ions, one a positive and the other a negative electron. The point that thus becomes emphasized is that nature does not work with large magnitudes. Take, for instance, the molecule, the largest of three concepts under discussion: It has been calculated by such mathematicians as D'Alembert, Maupertuis, Euler, that there must be sixteen quintillions (16,000,000,000,000,000,000) of molecules in a speck of matter weighing 1/15,000 part of a grain. Nature works with the smallest possible magnitudes with an energy that is increased to an incredible extent, be-

cause, as Van't Hofft has proved that salts in dilution obey the laws not of solids but of gases, the energy inherent in ions must be proportionately greater than the energy contained in atoms, as the energy contained in atoms is vastly greater than that contained in molecules. We do not need to go into distinct calculations. The smaller the magnitude, the greater the energy, the more diffusible because freer. Energy that is freed from surrounding obstacles is immensely intensified. Water as ice increases in bulk; as steam it increases in effect. The same process is also shown by radium. Radium is really not the mother substance of matter, as has been claimed by some. Rutherford has proved that while radium evaporates slowly, it does evaporate. It takes about 1,760 years for a milligram of radium to evaporate. In the course of evaporation it produces rays, emanations, gases. The alpha rays or the helium gas of radium may be shown to have vastly greater expansive power than radium alone, and the emanations of radium, as has been demonstrated by Dr. Blackmarr, may, therefore, have greater therapeutic effect than radium by itself. The point is this, that, like nature, medicine must work with small magnitudes if it wishes to give a far-reaching effect.

Dr. Hille, Chicago:—The most important thing in nature is not matter, but the forces back of matter—the chemical affinity or the electro-magnetic life element of the mineral kingdom; the physical aggregation, cohesion, organization or the vito-chemical life element of the vegetable kingdom; the conscious or spirtual life element of the animal kingdom; and the self-conscious, rational or soul life element of the human kingdom. Matter is simply dead mass when deprived of the life elements that operate through matter. There are many things we class as ultimates because we cannot explain them. Nevertheless we have to take them into account because they are evident through their phenomena. Matter is a reality. Life is reality. Most controversies in the realm of science, or what is imagined to be science, are caused because of lack of agreement on the definitions of the terms of science. The libraries of the world are filled with books for which there is no need. They are all talking about the same thing, but with a different conception of the meaning of the thing. Before science can accomplish anything it must define its terms. Is not our comprehension of the workings of nature commensurable with the development of our intelligence, and does not the effort to endeavor to comprehend those workings of nature develop our intelligence?

Dr. Tenney, Chicago:—To explain the terrific rate of reproduction we have two physical facts. First, arithmetic progression; and, secondly, that bacteria do not of themselves ever die. It is wonderful how rapidly the figures pile up when there is no subtraction and only an increase. In the culture tube we have the pabulum, the culture medium, which has no power of growth, inorganic in a sense, and then we have the living bacterium, the organism with its life element. As long as conditions are favorable, the organism does not die; it divides, and its multiples divide, and this terrific rate of reproduction is simply one of those wonderful exemplifications of what terrific energy there is in the life principle.

Dr. Krauss, Boston:—I do not believe Dr. Hill is finding fault with science any more than does Sir Oliver Lodge. What he finds fault with is pseudo science. The trouble is that many men carry their acquired notions with them into fields in which these notions are strange. Thus terms and subjects become confused. A chemist will not say that there is such a thing as dead matter, but as a philosopher he at once assumes that matter is only a dead mass. Matter is a concept. Whenever we conceive of matter as an entity by itself we simply separate it from existing substances for purposes of illustration, of elucidation, of explanation. There is no such thing conceivable as matter without energy, just as we cannot conceive of energy without matter. We may call life energy and energy life. As scientists we have to do only with the things that are proved and that are provable. As philosophers we may explain the things whose existence is proved or is provable. Science requires no explanations as science. I believe we are dealing with two conceptions—the stable conception of matter and the fluid conception of energy. Matter is an abstract idea. In reality, we are not dealing with matter as a whole, but with particular substances. We deal with particulars. We think in generals. We mix the two where they ought not to be mixed, and thus arise our mistakes. I think it is time, as Dr. Hille suggests, to revise our books and come down to a common understanding of our terms. Our medical literature is full of the Babel of babbling babes. Men write who have neither the creative knowledge to produce facts nor the critical knowledge to sift the true from the false.

Dr. Hille, Chicago—I believe that in some instances, at least, the faulty decomposition or the faulty breaking down of the

(*Continued on p.* 30.)

The Physician's Library

Diagnosis in the Office and at the Bedside. By Hobart Amory Hare, M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College. 7th edition, thoroughly revised. 547 pages, with 164 engravings and 10 full-page plates. Cloth, $4.00 net. Philadelphia and New York: Lea & Febiger, 1914.

As is usual with Hare's works, new editions are in constant demand. Hare is the shrine at which men who desire to know therapeutics and diagnosis bow. This book is a regional study of symptoms, and it points out clearly just what the physician should look for from the moment he first sees his patient until a positive diagnosis is reached. It takes up each problem as the physician meets it in the hospital, clinic or in actual practice. It reduces the possibility of error to a minimum. It is a striking example of Hare's ability to pick out the essentials. The illustrations and typography leave little to be desired.

Diagnostic Symptoms in Nervous Diseases. By Edward L. Hunt, M. D., Instructor in Neurology, College of Physicians and Surgeons, New York City. Cloth, 229 pages, illustrated. $1.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

The object of this book is to bring out the salient features of the various diseases of the nerves in order that the seeker after knowledge should not be compelled to read so much to gain the information desired. As a manual it is a decided success, as it brings out the leading symptoms and omits everything which is not actually essential in diagnosis.

Pathfinders of Physiology. By J. H. Dempster, M. D., Editor of the Detroit Medical Journal. Cloth, 66 pages. $1.00 net. Detroit: Detroit Medical Journal Company, 1914.

Herein are set down the biographies and the life work of the world's greatest physiologists. It is well prepared, interestingly written and deals with men to whom we are in great debt, but of whom unfortunately we know too little.

Pathogenic Micro-organisms. By Ward J. MacNeal, M. D., Professor of Pathology in the New York Post Graduate. Cloth, 462 pages. $2.25. Philadelphia: P. Blakiston's Son & Co., 1914.

This book is a continuance of Williams' Manual of Bacteriology and is much more comprehensive than its predecessor. It is devoted to a description of technical procedures, general biology of micro-organisms and individual microbes. The book is an introduction to the study of pathogenic micro-organisms and as such it fulfills its purpose admirably.

Anatomy and Physiology—A Text-Book for Nurses. By John Forsyth Little, M. D., Assistant Demonstrator of Anatomy, Jefferson Medical College. 483 pages, with 149 engravings and 4 plates. $1.75 net. Philadelphia and New York: Lea & Febiger, 1914.

The nurse who thoroughly masters the contents of this book will have all the anatomy and physiology she can possibly need. Emphasis has been placed on the descriptions of organs and their functions which are of fundamental importance in the practical work of the nurse. The volume is extremely well organized. Many of the illustrations are taken from Gray's Anatomy. At the end of the book is a table of weights and measures, a full glossary, and an excellent index. The book is a teaching instrument of real value to the nurse.

(*Continued on p.* 20.)

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The infant that is now increasing in weight, having a comfortable digestion, regular movements with stools showing evidence of perfect assimilation, is the baby that is most likely to go through the summer months in

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(*Continued from p. 166.*)

Clinical Diagnosis by Means of Laboratory Methods. By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Eighth edition, revised. 809 pages, with 185 engravings and 25 plates. Cloth, $5.00 net. Philadelphia and New York: Lea & Febiger, 1914.

It is a pleasure to welcome another edition of this book, which has so long been a standard. It contains much new material of value. The account of the diagnostic methods based upon the appearance of the protective ferments of Abderhalden in the blood will be found a trustworthy guide for those who would know more of "organ diagnosis." Much of the technic of the Wassermann reaction has been rewritten. The applicability of the complement fixation test to latent gonococcus infections having been satisfactorily established, the technic has been thoroughly explained. The more modern methods of investigating the existence and extent of renal disease have been carefully considered. A very excellent feature of this volume is "The Essential Factors in the Laboratory Diagnosis of Various Diseases." 250 pages is devoted to the application of laboratory findings to diagnosis.

State Board Questions and Answers. By R. Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Third edition. 717 pages. Cloth, $4.00 net; half morocco, $5.50 net. Philadelphia and London: W. B. Saunders Company, 1913.

This is a book which the student or physician preparing for a state board cannot afford to overlook. It covers every subject and the answers are short, terse and exact.

The Practice of Pediatrics. By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. 878 pages, 139 illustrations. Cloth, $6.00 net; half morocco, $7.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

Those who have been permitted to sit under the teaching of this gifted pediatrician will fully appreciate what a book from his pen means. He handles his subjects trenchantly and with an exactness that is almost classic. The book merely carries out in detail what his students have already discovered. The medical diseases of children have been amply portrayed by a master and as a result we have a most complete book on the subject. It is a pleasure to commend so worthy a contribution to pediatric literature.

Medical Gynecology. By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third edition. 790 pages, with 150 original illustrations. Cloth, $5.00 net; half morocco, $6.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

A feature of this edition is the careful explanation of the close relations between the internal glands and the female genital tract. He proves quite conclusively that the internal secretions play an important part in gynecology, and he calls upon Cushing, Novak, Biedel and other authorities to bear him out in these assertions.

The volume is a carefully prepared and exceptionally practical treatise and is of especial value to those who make gynecology a particular part of their work. The author holds true to his original promise in keeping on the medical side of his subject.

Cystoscopy as Adjuvant in Surgery. With an Atlas of Cystoscopic Views and Concomitant Text. By Staff Surgeon Dr. O. Rumpel, Lecturer in Surgery at the University of Berlin. Only authorized English translation by P. W. Shedd, M. D., of New York. With 22 textual figures and 85 illustrations in color on 36 plates. One quarto volume, half leather. Price, $5.00 net. New York, Rebman Co., 1914.

This is the finest work on cystoscopy in the English language. Every condition ever found in the bladder is portrayed by means of 85 colored plates. The drawings reproduce the bladder findings with photographic accuracy and the accompanying text is enlightening. In addition the author takes up the various vesical abnormalities and discusses them comprehensively and tersely. To anyone who is doing or expects to do cystoscopy this book is recommended as an invaluable assistant for the interpretation of his findings.

The Protein Split Products in Relation to Immunity and Disease. By Victor C. Vaughan, M. D. LL.D., Dean of the Department of Medicine and Surgery of the University of Michigan, Victor C. Vaughan, Jr., M. D., A. B., of the Detroit Board of Health and J. Walter Vaughan, M. D., A. B, junior attending Surgeon to Harper Hospital 12mo, 476 pages, illustrated. Cloth, $3.00 net. Philadelphia and New York: Lea & Febiger, 1913.

This is a scientific discourse on new physiological principles. The authors believe that bacteria are proteins and the keystone of the protein molecule is our poison. Ordinary proteins are not poisonous, but if the secondary group is stripped off the primary becomes poisonous. The specificity of proteins resides in the secondary groups of their molecules and all specific protein reactions are due to these groups. Life is molecular and the cell is not the unit. The cell is made up of protein molecules and its form and function are determined by the chemical structure of its constituent molecules. In the gradual changes in the chemical structure of living proteins lies the basis of organic evolution. The experiments of the authors include bacterial infection, immunity, anaphylaxis, specific ferments of cancer cells and protein fever and their findings are of great interest.

Progressive Medicine, Vol. XVI, No. 1. Edited by Hobart Amory Hare, M. D., of Jefferson Medical College. Quarterly, 406 pages. $6.00 per annum. Philadelphia and New York: Lea & Febiger, 1914.

The contents of this issue include: Surgery of the Head and Neck, by Charles H. Frazier; Surgery of the Thorax, excluding Disease of the Breast, by George P. Müller; Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia and Influenza, by John Ruhräh, Diseases of Children, by Floyd M. Crandall; Rhinology and Laryngology, by George B. Wood; and Otology, by Arthur B. Duel.

The number is fully up to the high standard of its predecessors, each article being a complete review of the subject.

Books Received.

All books received will be acknowledged in this column, and those which warrant further notice will be given a more extended review in a later issue.

The People's Health. A textbook of sanitation and hygiene for the use of schools. By Walter Moore Coleman. Cloth, 296 pages, illustrated. Published in 1913 by The Macmillan Company, New York.

(*Continued on p. 22.*)

In Treating the

GASTRO-INTESTINAL DISORDERS

of Infancy and Childhood

such remarkable results are being obtained from the systematic use of **malt soup**, that many practitioners have come to look on this preparation as the solution of many, if not all of the problems of infant feeding. In a recent article in the ***British Journal of Diseases of Childhood,*** Veras states unequivocally that he has found **malt soup** to be the best anti-putrefactive diet in the enteritis of infancy and young children. Clinical experience with this form of nourishment in the treatment of gastro-intestinal disorders of infancy shows that it not only aids in controlling bacterial activity and in reducing the local inflammatory process, but is rapidly picked up and appropriated by the organism.

Thus the use of **malt soup** enables the practitioner to correct the local condition, and what is especially important, to avoid the extreme emaciation that is often the most serious and disturbing feature of these cases.

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readily becomes a chronic condition since the toxemic patient lacks that initiative which is necessary to active physical excercise; thus ***cause*** and ***effect*** form a circle which must be broken by rational therapeutic treatment while proper hygienic conditions are being re-established.

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performs a ***double service*** by stimulating to normal function and by disinfecting the intestinal and urinary tracts.

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Cystogen-Aperient is not presented as a saline purgative, but as a rational therapeutic aid wherever treatment is based on elimination; it combines the laxative and tonic properties of Sodium Phosphate and Tartrate with the diuretic urinary-antiseptic and solvent action of Cystogen ($C_6H_{12}N_4$).

FORMULA: A teaspoonful contains { Cystogen gr. V. / Sod. Phos. gr. XXX. / Sod. Tart. gr. XXV.

DOSE: A teaspoonful in a glass of water t. i. d.

Samples on request.

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(*Continued from p*, 20.)

Annual Report of the Bureau of Labor Statistics. For the year ended September 30, 1912. Cloth, pages 603. Published in 1913 by the State Department of Labor, Albany, N. Y.

The Pathogenesis of Salvarsan Fatalities. By Dr. Wilhelm Wechselmann, Directing Physician of the Dermatological Department, Rudolph Virchow Hospital in Berlin. 143 pages. Cloth, $1.50. Published in St. Louis by the Fleming-Smith Company, St. Louis, Mo.

The International Medical Annual, 1914, thirty-second year. 716 pages. Cloth, $3.50. Published in New York by E. B. Treat & Co., New York.

Modern Surgery: General and Operative. By J. Chalmers DaCosta, M. D., Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Seventh edition, revised. Enlarged and reset. 1515 pages, with 1085 illustrations, some of them in colors. $6.00 net; half morocco, $7.50 net. Published in 1914 by W. B. Saunders Company, Philadelphia and London.

Osler's Essays. Two volumes, neatly boxed. Vol. 1, Man's Redemption of Man. Vol. 2, A Ray of Life. Cloth, 63 pages. Price, 50 cents each, net. Published in New York by Paul B. Hoeber, New York.

Lectures on Dietetics. By Max Einhorn, Professor of Medicine at the New York Postgraduate Medical School and Hospital and Visiting Physician to the German Hospital, New York. 156 pages. Cloth, $1.00 net. Published in New York by Paul B. Hoeber, New York.

Salvarsan by Enteroclysis.

L. Oulmann and J L. Wollheim, New York, describe a method of administering salvarsan and neo-salvarsan which is almost unique, they having found only three mentions of a like procedure in the literature. The method is simple. The evening before treatment the patient is given a dose of saline to completely empty the bowels and then directed to take a rectal douche of soap solution about an hour before coming for treatment. If this is in the forenoon he is to take no breakfast, but if in the afternoon he may take a light breakfast and take his enema an hour earlier than otherwise. The points insisted on are that he should be hungry, thirsty, and empty. He is then placed on the table and given a hypodermic of morphin; children are given paregoric by the mouth. He is then placed on his right side in the semiprone position with the head of the table tilted down and the rectal tube is passed up as far as possible. The solution is prepared exactly as with the intravenous method except that it is made exactly 240 Cc.

The injection is given at the rate of sixty drops per minute, or so that it will take just one hour for the 240 Cc. to pass into the patient. They have seen a rapid injection retained, but do not recommend it. They have given in this way thirty-seven injections to thirty patients and have seen all the manifestations of syphilis clear up under the treatment apparently as quickly as by the intravenous method. The authors conclude that it has its place in therapeutics, but should not generally replace the intravenous method, which has the advantage of possibly more thorough absorption. The enteroclysis method should be used in preference in children. —(*J. A. M. A.*, Sept. 13.)

Infantile Constipation

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THERAPEUTIC MEMORANDA.

Concerning Melubrin: Dr. Schuster, of the City Hospital, in Chemnitz (*Deut. Med. Woch*, Feb. 13, 1913), comments on his endeavors to obtain a satisfactory antirheumatic. He found the best one in use is Pyramidon, which is excellent on account of its mild continued action, its small doses and the insignificant disturbance of the stomach. He tried out the newest derivative of antipyrin, Melubrin, very carefully. The positive antipyretic effect first noted by Loening in acute and subcutaneous polyarthritis, and designated by him as specific, was confirmed by Schuster completely. According to age and constitution, daily doses of three to eight grams were usually given and were always well tolerated. As regards the antipyretic action, there was speedy removal of the pain in the joints and reduction in the swelling of the diseased joints. Fever also promptly subsided. Relapses took place occasionally, but only after discontinuing the treatment. They disappeared more rapidly in the case of the same patients than like attacks when compared with the action of other remedies previously given. Melubrin opens up a great therapeutic field in a large number of febrile diseases. Schuster observed especially the good antipyretic action of Melubrin in typhoid fever, pneumonia, erysipelas and influenza.

In all acute and subacute rheumatic troubles, as well as in a number of etiological joint affections otherwise occasioned, Melubrin gave splendid service. The results were just as satisfactory in sciatica.

In children's practice Melubrin was tried. To four children of the ages of one-half to four years, Melubrin was given in appropriate doses and was easily taken and well tolerated. Complicated pneumonias did not develop. Duration of the individual attacks decreased in intensity and frequency. Melubrin did not occasion any variation of the blood pressure and was found could be used in cases of a weak heart. In the great majority of patients no disturbance of the organic functions was occasioned.

Dr. K. Riedel of the University of Halle confirms Dr. Hahn's experiences with the intravenous use of Melubrin. Like this author, he obtained excellent results. The duration of rheumatic affections seemed to be much shortened, and disturbances of the stomach were completely avoided. He also administered Melubrin subcutaneously and inramuscularly, and met with the same satisfactory results. He gave quantities of from two to the three grams two or three times daily. No by-effects or local irritation were observed. Often in severe cases the pain disappeared after the second or third day. The analgesic effect was distinct even after a very short time (one-fourth or one-half hour after injection), so that bodily movements which were previously extremely painful, became painless. The antipyretic effect was always very marked.

Contrary to sodium salicylate, which when injected intravenously or subcutaneously even in small quantities, causes severe symptoms of intoxication, Melubrin is well tolerated, not only when similarly injected, and does not cause local irritation.

The author thinks this method a valuable addition to Melubrin therapy when irritation of the stomach or intestines is to be avoided, as for instance, in typhoid fever and tubercular fever. His prescription is: Melubrin, 7½ grams, enough distilled water to make 15 Cc., to be injected three times daily.

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MELUBRIN
Antirheumatic-Antineuralgic
A succedaneum for the salicylates and especially valuable in acute articular rheumatism and allied conditions. It does not affect the gastro-intestinal tract.

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$C_7 H_{14} O_7$
A seven sugar, with nutritive and sweetening properties for use in the treatment of diabetes.

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A powerful analgesic without harmful effect on blood or organs and without danger of habituation. Indicated in typhoid fever, pneumonia, erysipelas and influenza.

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Neurology	Dr. Steinach	3:00 P.M.
Cumberland Street Hospital—		
Surgery	Dr. Ritch	2:30 P.M.
Laryngology and Rhinology	Dr. Stewart	4:00 P.M.
Surgery, Oral	Dr. Shea	4:30 P.M.
Kings County Hospital —		
Gynecology	Dr. McNaughton.	9:00 A.M.

TUESDAYS:

City Hospital—		
Gynecology	Dr. Stearns	2:00 P.M.
Surgery	Dr. N. W. Green	2:00 P.M.
Neurological Hospital—		
Neurology	Dr. Byrne	9:00 A.M.
Cumberland Street Hospital—		
Gynecology	Dr. Burnham	1:00 P.M.
Kings County Hospital—		
Obstetrics	Dr. Commiskey	10:00 A.M.
Genitourinary Surgery	Dr. Morton	2:00 P.M.
Coney Island Hospital—		
Surgery	Drs. Fiske and Bogart	10:30 A.M.
Surgery	Drs. Murphy and Lack	10:30 A.M.
Medicine	Drs. Hall and Nash	3:30 P.M.
Medicine	Drs. Hegeman and Byington	3:30 P.M.

WEDNESDAYS:

City Hospital—		
Medicine	Dr. Quimby	1:30 P.M.
Genitourinary Surgery	Dr. Greene	2:00 P.M.
Obstetrics	Dr Shears	2:00 P.M.
Neurological Hospital—		
Neurology	Dr. Maloney	10:00 A.M.
Cumberland Street Hospital—		
Surgery	Dr. Pallister	2:30 P.M.
Ophthalmology and Otology	Dr. Schenck	4:00 P.M.
Kings County Hospital—		
Orthopedics	Dr. Truslow	10:00 A.M.
Dermatology	Dr. Winfield	1:00 P.M.
Otology	Dr. Alderton	1:00 P.M.
Orthopedics	Dr. Napier	4:00 P.M.
Coney Island Hospital—		
Pediatrics	Drs. Beck and McQuillan	3:30 P.M.
Pediatrics	Drs. Pendleton and Van Wart	3:30 P.M.

THURSDAYS:

City Hospital—		
Medicine	Dr. Evans	9:00 A.M.
Surgery	Dr. N. W. Green.	2:00 P.M.
Metropolitan Hospital May 7th—		
Electro-therapeutics	Dr. Royle	2:30 P.M.
Genitourinary Surgery	Dr. B. G. Carleton	2:30 P.M.
Medicine	Drs. Mills, Rankin and Swift	2:30 P.M.
Ophthalmology	Dr. Boyle	2:30 P.M.
Surgery	Drs. Bagg and Honan	2:30 P.M.
Cumberland Street Hospital—		
Gynecology	Dr. Burnham	1:00 P.M.
Surgery	Dr. Ritch	2:30 P.M.
Laryngology and Rhinology	Dr. Stewart	4:00 P.M.
Kings County Hospital—		
Obstetrics	Dr. Commiskey.	10:00 A.M.
Coney Island Hospital—		
Gynecology	Drs. MacEvitt and Mills	1:30 P.M.
Gynecology	Drs. Mayne and Rankin	1:30 P.M.
Rhinology and Laryngology	Dr. Tucker	1:30 P.M.
Surgery	Drs. Fiske and Bogart	3:30 P.M.
Surgery	Drs. Murphy and Lack	3:30 P.M.

(*Continued on p. 26.*)

Physicians' Patients

may be sent to MUDLAVIA with the full assurance that they will be as well taken care of as though their physician accompanied them. We appreciate the co-operation of the physician and are glad to receive his advice, and report to him the condition of patients that he may send to us.

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CITY .....

STREET.....

FRIDAYS:

City Hospital—		
Ophthalmology	Dr. Wiesner	9:00 A.M.
Laryngology and Rhinology	Dr. Dougherty	2:30 P.M.
Neurological Hospital—		
Neurology	Dr. Abrahamson.	9:00 A.M.
Cumberland Street Hospital—		
Surgery	Dr. Pallister	2:30 P.M.
Surgery, Oral	Dr. Shea	4:30 P.M.
Kings County Hospital—		
Gynecology	Dr. McNaughton.	9:30 A.M.

SATURDAYS:

City Hospital—		
Pathology	Dr. Larkin	2:00 P.M.
Neurological Hospital—		
Neurology	Dr. Walsh	2:00 P.M.
Kings County Hospital—		
Obstetrics	Dr. Commiskey	10:00 A.M.
Neurology	Dr. Bush	11:00 A.M.

Nasal and Aural Infections.

There is a growing impression among specialists in those diseases that catarrhs of the nose and ear, especially chronic discharges, are commonly the results of mixed infections. If this view is correct, is it not a fair inference that mixed infection phylacogen may provide a solution to one of the most perplexing problems that the profession has been called upon to solve? There is ground for such conclusion. Certain it is that the phylacogen referred to has produced some very satisfactory results in numerous cases which had failed to respond to conventional modes of treatment.

An open letter to the profession which is appearing in leading medical journals over the signature of Parke, Davis & Co., adduces additional evidence of the value of mixed infection phylacogen in stubborn nasal and aural infections. This communciation, which bears the title "A Letter to Medical Men," cites some cases that appear strongly confirmatory of the mixed-infection theory of etiology. All of the reports are interesting. At least one of them is remarkable: it deals with a housemaid who suffered almost total deafness in one ear for twenty-one years, and whose hearing in the defective organ was practically restored after eleven injections of mixed infection phylacogen.

Prevention of Nephritis.

In scarlet fever, diphtheria, typhoid and other infectious diseases, it is a commonplace of practice to watch the urine and to take every precaution against nephritis. The discovery of the peculiar property of the chemical combination, $C_6H_{12}N_4$, to give off formaldehyde and other obscure but effective antiseptic agents, *at body temperature only*, was one of the most epoch-making in the history of therapeutics. Cystogen, a refined preparation of the afore-mentioned chemical, has been extensively prescribed for more than fifteen years and has been preferred to other products by many physicians on account of its uniformity of action and non-irritating property. More recently, Cystogen-Lithia (cystogen, 3 grs. and lithium tartrate, 3 grs.) in the form of an effervescent tablet has been given preference; one of these tablets dissolved in a glass of water, makes at once a proper dose and menstrum, to be taken at meal times or between meals, as the prescriber may direct.

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Prunoids have proven value for constipation, or bowel torpor encountered in neurasthenia, jaundice, anaemia, rheumatism, gout, and all other affections where tonic stimulation of the functional activity of the bowels is so essential. Indeed, Prunoids exert so pronounced an influence on the physiologic processes of the intestines that the effects are often prolonged for several days. Thus Prunoids do not induce the cathartic habit, as do so many other laxatives, but can be relied upon to accomplish results that rarely fail to persist for a long and gratifying period.

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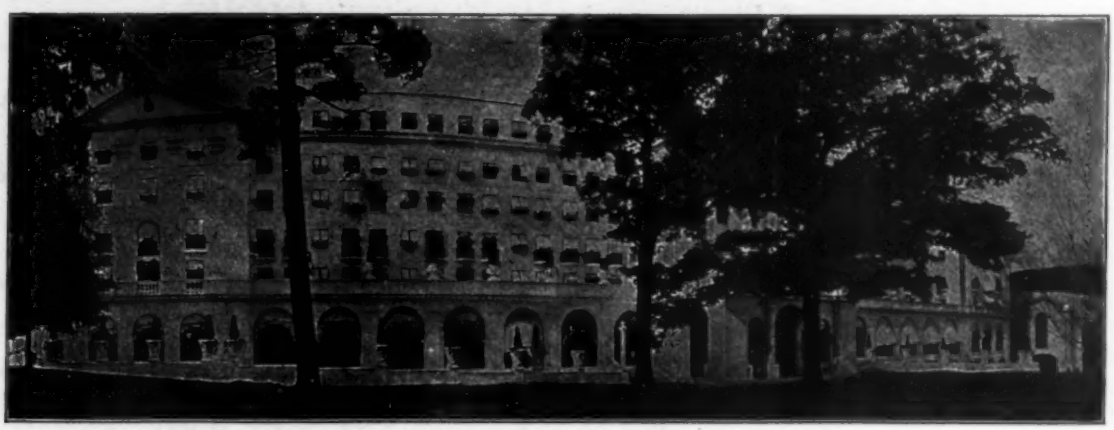

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(*Continued from p.* 166.)

albumen molecule in the organism, expressing it from a chemist's point of view now, is in all probability due to a lack of those agents which regulate those processes, namely, the mineral bodies. I should like to ask Dr. Askenstedt if he has ever tested the effect of mineral bodies properly administered to patients suffering with indicanuria?

Dr. Newton, Boston—Recently it has been stated that pernicious anemia seems to be the result of intestinal putrefaction. I should like to ask whether investigation has been made in this respect. The thorium treatment has been claimed for pernicious anemia, and I should like to ask where that comes in.

Dr. Schmoll, Chicago—Dr. Blackmarr will show to-night two cases treated by radium and thorium and what we may expect of both pernicious and secondary anemias. There are on record over one hundred and sixty-two cases, diagnosed before treatment as pernicious anemia, found after treatment with blood cells normal and still normal four years after treatment.

Dr. Krauss, Boston—I should not call these cases pernicious anemia. Pernicious anemia is incurable idiopathic anemia, and while I doubt the existence of a condition such as the term pernicious anemia must pathologically represent, namely, a fatally progressive anemia due to the destruction of the red blood cells from disease originating within the red blood cells, yet we must be consistent and not speak of secondary nonfatal anemias as primary, progressively fatal, pernicious anemias. One of our members made, several years ago, a report on two cases he had, and while at first he called them pernicious anemias, they turned out to be leucaemias, and finally secondary anemias, one of cancer and the other of tuberculosis.

There are violent forms of infectious and metabolic anemias, but they are not necessarily pernicious and should not be termed pernicious anemias. Medical terms should carry their logical explanation.

Dr. Askenstedt (in conclusion)—Indicanuria is produced by putrefaction of proteids caused by bacteria. Outside of intestinal putrefaction we may have indicanuria only when putrid accumulations are very large. We ought to be able to exclude these large, obvious accumulations, and then we may be pretty certain that indicanuria is produced by intestinal putrefaction. To test the effect of mineral bodies on the condition of indicanuria would be an exceedingly difficult matter, as the minerals would have to act on the putrefactive process in the intestines after passing through the organism. I can see no reason why minerals should act directly in suspending the proteolytic action of bacteria unless minerals may induce a higher percentage of hydrochloric acid in the stomach, and even this would be such a slow and, besides, difficult matter to decide that experiment to this effect would not seem very practical. Pernicious anemia is usually associated with indicanuria because in the majority of cases of pernicious anemia there is an absence of hydrochloric acid in the stomach which is sufficient to account for the indicanuria, but true indicanuria of intestinal putrefaction does not seem to be associated with true pernicious anemia. I do not share the view that there is no true pernicious anemia. It is the only anemia in which the color index is always high. I also do not share the view that indicanuria and pernicious anemia have any direct relation, except, perhaps in the absence of acidity in the stomach.

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The artificial digestives have their place in modern therapy, but their use should always be tempered with sound judgment. A physician states: "Nature should be gently assisted in the human economy. If we persist in doing its work, like the lazy man, it soon depends on that assistance. This is true to the action of the liver, stomach, intestines, as well as all functions of the human anatomy. How often do we meet with individuals who are habitually dosing themselves whenever an action of the liver or bowels is required, and others who require a dose of pepsin or one of the many artificial digestives after each meal. This is all wrong. The functional activity of the entire process of digestion should be encouraged, and any remedy that will specifically stimulate these functions to their healthy action is of greater service in digestion than pepsin. Seng, a remedy that has a well defined secernent action on the glands and mucous membranes of the stomach and intestines, thus compelling the secretion of Nature's own digestive fluids, is the modern treatment for dyspepsia."

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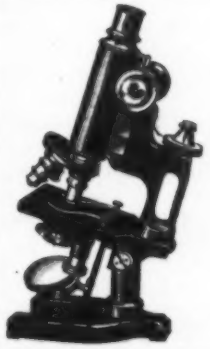

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No person or corporation shall manufacture, make, have, sell or offer for sale any article of food or drink which contains any methyl alcohol (commonly known as wood alcohol); or any preparation or mixture containing any methyl alcohol intended for internal use by man.

No person or corporation shall sell, exchange, deliver, offer for sale or have in a place of sale any methyl alcohol (commonly known as wood alcohol) in any form, or any preparation or mixture containing any methyl alcohol, under or by whatever name or trade-mark the said preparation or mixture may be called or known, unless there be affixed to the bottle or vessel containing the same a conspicuous label bearing the words, "Poison—Likely to Cause Blindness or Death," together with a skull and crossbones and the name and address of the maker, owner or seller, all conspicuously printed in red ink.

Any person who violates any of the provisions of this section shall be guilty of a misdemeanor.

Senate—Griffin Bill—Int. No. 1067.

Assembly—Thorn Bill—Int. No. 1322.

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The local evidences of cervical rib are not always pathognomonic.

Infantile Paralysis.

Noticing some misconceptions on the part of the laity and some physicians as to the curability of this paralysis H. W. Frauenthal, New York, describes the methods of restoring function of the muscles in cases in which serious inflammation and degeneration of the cord has not yet taken place. As regards electric treatment, he believes in its application as soon as paralysis appears instead of waiting several weeks as advised by some authors. He has applied the high-frequency current along the spine in the first days of the paralysis and a sinusoidal current alternating with a combined galvanic and faradic current with contractions synchronous with the heart-beat using sponge electrodes at the origin and insertion of the affected muscles or muscle groups. He does not put faith in the reaction of degeneration as indicating degeneration and irreparable damage to the muscles. The current used should be the weakest that will produce a contraction and must not be used after the contraction ceases or more than two minutes on one muscle group or more than twelve minutes at any one time. The good effects of massage are testified to, but too prolonged massage is an abuse. Use of hydrotherapeutic measures is a valuable adjunct of treatment, but he lays particular stress on muscle education by active and passive movements before a mirror. By the methods enumerated he has been able to exhibit at medical meetings forty-three patients practically cured who have been unable to walk for periods from nine months to four years in spite of treatment by physicians.—*(J. A. M. A.)*

The leukocyte count in children from three to twelve years averages 9,000.

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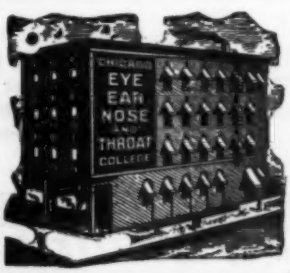
Annual Meeting Association Clinical Research.

The next annual meeting of the American Association of Clinical Research will take place on November 5, 6, 7, 1914, at Baltimore, Md. President Leonard Keene Hirshberg, M. D., has made arrangements for sessions in Loyola College, Biedler-Sellmann Hospital, and Howard Kelly Hospital.

JAMES KRAUSS, M. D.,
Secretary.

A Tourniquet For Salvarsan.

Laurie has adapted the arm band, the inflating bulb and the relief cock of the sphygmomanometer, as a simple tourniquet which he describes, together with the method of use.



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Surgical Lore.

The beginnings of surgery were coincident with those of medicine, much of it being done during the wars, for it is noted that Aesculapius and his two sons were at the siege of Troy. It was about 300 B. C. at Alexandria that the first human body was dissected, but public sentiment soon put a stop to it. Later, in fact, through the middle ages, the physicians were usually priests and consequently could not shed blood, so until the days of Ambrose Paré surgery not only made no advance, but had deteriorated. Formerly, in amputations, the blood vessels were seared with a red-hot iron, but Paré, "Father of Modern Surgery," first used the ligature.

The modern advance in surgery is curiously enough based on the achievements of three men, only one of whom was a surgeon: Simpson, who gave us chloroform; Morton, who gave us ether, and Lister, who introduced antisepsis.

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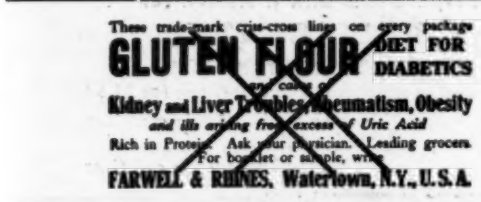
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